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ABSTRACT

Economic literacy is important because economics is such an integral part of daily existence. Individuals who understand basic economic concepts will be better equipped to make the important decisions that effective citizenship requires. The 15 economics lessons in this booklet are designed for elementary and middle school students. Each lesson introduces an economic concept such as: goods and services; production; scarcity; consumers; producers; trade; money; specialization; capital; saving and investing; market price; costs and profits; inflation; and Gross National Product. The unique feature of these lessons is the use of modeling clay in each lesson. This is not only motivating, but also provides concrete learning experiences that promote learning for most elementary and middle school students. The lessons are primarily activity-oriented simulations that stress an inductive approach to learning. The lessons are best taught sequentially as a complete unit of instruction, but may be used individually to supplement other economics curriculum materials. There are two similar multiple choice tests that accompany the lessons. One test covers lessons 1-9 and has a somewhat easier vocabulary than the second test, which covers all 15 lessons but is divided into two parts, one covering lessons 1-9 and the other lessons 10-15. A key to the answers is provided. (Author/JB)

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PLAY DOUGH ECONOMICS

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Motivating Activities for Teaching Economics

to

Elementary and Middle School Students

H. Dean Evans, Superintendent of Public Instruction

Written by
Harlan R. Day
Economic Education Consultant

Indiana Department of Education
Center for School Improvement and Performance
Office of School Assistance

Indianapolis
1988

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"People who are highly motivated to learn generally do learn; those who are not motivated seldom do . . . Without effective student motivation, nothing else matters much."

G.L. Bach

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INTRODUCTION

Economic literacy is important because economics is such an integral part of our daily existence. As consumers, producers, and voters, we constantly make decisions about the use of our scarce resources. These decisions have a direct influence on us as individuals and as a society. Individuals who understand basic economic concepts will be better equipped to make the important decisions that effective citizenship requires.

The 15 economics lessons in this booklet are designed for elementary and middle school students. Each lesson introduces an economic concept, each of which is listed and described in the *Master Curriculum Guide: A Framework for Teaching the Basic Concepts*, published by the Joint Council on Economic Education.

The unique feature of these lessons is the use of play dough modeling compound (or modeling clay) in each lesson. This not only is very motivating, but also provides concrete learning experiences that promote learning for most elementary and middle school students.

The lessons are primarily activity-oriented simulations which stress an inductive approach to learning, whereby students derive an understanding of the concepts from examples and data generated in the simulations.

Teachers will discover a variety of ways to use these lessons in the curriculum. The most obvious place is in social studies, especially since economic concepts will be tested in the social studies portion of the new Indiana Statewide Test of Educational Progress. The lessons are best taught sequentially as a complete unit of instruction, but may be used individually to supplement other economics curriculum materials. Many of the lessons also have application in other areas of the curriculum, especially mathematics, fine arts, and decision-making.

There are two similar multiple choice tests which accompany the lessons. The Primary Test, which should be read orally to students, covers Lessons 1-9 and has a somewhat easier vocabulary than the Intermediate Test. The Intermediate Test covers all 15 lessons, but is divided into two parts, one covering Lessons 1-9 and the other Lessons 10-15. The test questions on both tests are keyed to the specific teaching objectives found in the lessons.

The grade level for using specific lessons will vary. Primary teachers probably will focus on Lessons 1-9, which cover the more basic concepts. Intermediate and middle school teachers also will find these introductory lessons beneficial, since they will prepare their students for the more difficult concepts introduced in Lessons 10-15.

Lessons 11-13, at first, may appear complicated. However, teachers should realize that these lessons build on one another, so that actual increases in complexity are minimal.

Of more concern to teachers may be understanding the actual economic content. Each lesson provides a brief explanation of the concepts in the lesson; however, a teacher who needs additional help may need to review some other sources. Teachers will find the In-

diana Department of Education Publication, *Teaching Economics in the Mini-Economy*, helpful. It is available from the department upon request.

It is also very helpful to attend a summer workshop on economic education. Workshops are sponsored by the Indiana Council for Economic Education (ICEE), and are offered each summer at universities throughout Indiana.Graduate credit usually is provided at little or no cost to participants.

For further information about economic education mini-grants, workshops, curriculum materials, or inservice programs, please contact the department's economic education consultants.

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Lesson 1
Goods and Services

Goods and Services: The Things We Want

Teaching Objectives:

1. To teach that goods and services are things that people want.
2. To teach the difference between goods and services.

Economic Concepts/Vocabulary:

Goods, Services, Wants

Time Allowed:

30 minutes

Materials:

- Enough play dough modeling compound for each student to make a small sculpture
- Examples of goods
- Pictures showing people performing services
- Chalkboard or overhead projector

Discussion of Economic Concepts:

Economics studies how **productive resources** (land, labor, and capital) are used to provide the **goods** and **services** that satisfy human **wants**. In many elementary textbooks a distinction is made between wants and needs. Because this distinction is not always clear, economists usually lump the terms together under the general category of "wants."

Goods are tangible items that result from production, such as books, automobiles, pants, paper clips, and shovels. **Services** are nonphysical results of production, and must be consumed as soon as they are produced. Examples include the services of a dentist, teacher, or plumber.

Goods and services are, by definition, things that people want. As we shall see in later lessons, there are not enough goods and services freely available to severyone's wants. The result is the problem of **scarcity**, which is discussed in Lesson 3.

Teaching Tips:

1. In this lesson, do not introduce the concept of scarcity. That is covered in detail in Lesson 3. Simply emphasize the basic lesson objectives: the distinction between goods and services, and that goods and services are things people want.

2. The things the children say they want may focus on toys, candy, pets, etc. Emphasize that more mundane things (food, clothing, paper, pans, spoons, etc.) are also things that people want.

3. The terms goods and services encompass final products that consumers purchase (output) as well as productive resources (inputs). For example, the service a mechanic provides is a final product when he fixes my car. The labor services of a mechanic who works for a large building construction company are an input to the production of buildings.

Teaching Procedure:

1. Explain that all individuals want to have a wide variety of things. Ask students to identify things they would like to have. Write the student wishes in a "wishing well" that you draw on the board or overhead.

2. Discuss the students' wishes. Discuss other more mundane or not so obvious wants that people have. Explain that the tangible things that people produce to satisfy people's wants are called goods. Give examples.

3. Explain that services are also things that people want. Teach this difference, showing pictures of people performing services. Let some students pretend to be performing some service, and let the others try to guess what it is.

4. Ask the students if they would like to make a good out of play dough. Pass out enough for each student to make a small sculpture. Allow students 5-8 minutes to make the goods, and then discuss their handiwork. The teacher should also make something.

5. If time permits, repeat the exercise, this time requiring students to make a sculpture of someone performing a service.

Follow-up and Extension Activities:

1. Make a "wishing well" bulletin board on the theme of goods and services.

2. Invent and play various games where students are required to identify correctly whether something is a good or service. For example, tell students to clap their hands if the word you call out is a good, and to stomp their feet if it is a service.e Or, have each student make good and service flashcards. As the teacher calls out an item, students must flash the card that correctly identifies it as a good or service.

3. Have students bring in hats worn by people who provide various services (baseball player, doctor, fireman, police officer, TV repairman, etc.). Discuss why people want these services.

4. Why not have an "Economics" learning center? Each week change the content and/or activity to correspond to the economics lesson that is taught.

5. Start an "Economics Notebook." Each week add new words, concepts, pictures, worksheets, etc.

Resource Materials:

1. "Trading," Lesson 1 from *Common Cents*, a series of 10 video economics lessons for grades K-2.. The lessons are presented in a "Sesame Street" format.

2. *Strategies for Teaching Economics: Primary Level* has various activities that cover goods and services.

3. Section 1 in *Lifegames* has 20 lessons on the general topic of goods and services.

Lesson 2
Production

Production: How We Get the Goods and Services We Want

Teaching Objectives:

1. To teach that to get goods and services people must engage in production.
2. To teach that people in production use productive resources to provide the goods and services.
3. To teach the difference between the three basic productive resources: land, labor, and capital.

Economic Concepts/Vocabulary:

Production, Producer, Consumer, Productive Resources, Land, Labor, Capital, Entrepreneur

Time Allowed:

30-40 minutes

Materials:

- Enough play dough modeling compound for each student to produce a small sculpture
- Pencils, scissors, rulers, and other small articles of "capital"
- Examples or pictures of capital (tools, etc.) and land (natural resources)

Discussion of Economic Concepts:

To obtain the **goods** and **services** they want, people must engage in **production**. **Entrepreneurs (producers)** take the initiative to purchase **productive resources** (inputs) and use them to produce the goods and services (output) they think **consumers** will purchase.

The productive resources frequently are classified into three basic groups - **land, labor**, and **capital. Land** is a broad term that economists use when referring to any natural resource, such as oil, water, trees, or land itself. **Labor** is the human work effort, both physical and mental, expended in production. **Capital** refers to man-made physical resources, such as buildings, tools, and equipment, or to acquired human skills **(human capital)** gained through education and training.

The production process is illustrated in the diagram below.

PRODUCTION

LAND + LABOR + CAPITAL → GOODS AND SERVICES
(Inputs) (Output)

Teaching Tips:

1. Make a point to identify productive resources when they appear in stories, textbooks, and classroom discussion. As you learn to use the term more frequently, your students will learn it naturally, and will begin to use it themselves.

2. For younger students, it may be better to use the term "natural resources" instead of "land." Also, for younger students, it is wise to extend this lesson over several days, emphasizing a specific productive resource each day.

3. Be sure to emphasize that the "capital" (pencils, rulers, etc.) that the students use represent capital that businesses use, such as tools, equipment, machinery, buildings, etc.

Teaching Procedure:

1. To introduce this lesson, ask students to recall from Lesson 1 some of the goods and services that people want. Ask the students if they know how people get the things they want (businesses produce them).

2. Explain that businesses use productive resources to produce goods and services. Use actual examples and/or pictures of the three types of productive resources and explain the differences between them.

3. Ask students if they would like to use productive resources to produce something out of play dough. Distribute a small amount to each student.

4. Tell students to produce a good. With younger students, you may want to specify what kind of good to produce (something to wear, ride, etc.) Their play dough represents land (some natural resource), their work effort is the labor, and any small tool (pencil, ruler, scissors, etc.) is their capital. Some examples of goods the students might produce are a log cabin, boat, desk, car, article of food or clothing, doll, etc. Students can use their "capital" to help fashion their good or to make designs and marks to make the good more realistic.

5. Discuss student creations. Ask students to identify what productive resources were used to produce their goods.

Follow-Up and Extension Activities:

1. Make a productive resources bulletin board or display. Have students bring in pictures or the actual resources. Students could bring these for "show and tell" sessions.

2. Do another similar play dough activity in which students make examples of land (natural resources), labor (someone working), or capital.

3. Discuss the productive resources that are necessary to produce a meal in the school cafeteria. Request permission for some students to visit the school cafeteria to observe a meal being made. Have them list and classify productive resources that are used.

4. Explain that productive resources are also necessary to produce services (carwash, haircut, TV repair, etc.). Discuss and list the productive resources needed to provide these services.

5. Have students cut out and label pictures of various productive resources and put them in their economics notebooks.

Resources Materials:

1. "This Job is Yours," from the *Winnie-the-Pooh and the Value of Things* filmstrip kit, is excellent for introducing the concept of labor.

2 The first program in the *Oak Lane Tales* economics series, "Welcome to Oak Lane," introduces the concept of production.

3. Printed materials that are appropriate are *The Elementary Economist: Resources in the Marketplace* and *Children in the Marketplace*, Lesson 2 (especially for grades 3 and 4).

4. Sections 2 and 3 in *Lifegames* contain many lessons for primary students on the productive resources.

Lesson 3
Scarcity

Scarcity: We Can't Have Everything We Want

Teaching Objective:

To teach the concept of scarcity.

Economic Concepts/Vocabulary:

Scarcity, Wants, Price

Time Allowed:

25-30 minutes

Materials:

- Enough play dough modeling compound for each student to make a small sculpture

Discussion of Economic Concepts:

We live in a world of **scarcity**. This means that the desire of individuals for **goods and services** exceeds the **productive resources (land, labor,** and **capital)** available to satisfy those desires. In other words, the things of **value** that people **want** are virtually unlimited, while the productive resources necessary to produce these things are limited. Every society must determine how to best use its scarce productive resources to produce goods and services. This is the **basic economic problem.**

The goods and services that are produced from scare productive resources are themselves scarce. Furthermore, they differ in their degree of scarcity. Those which are highly valued and which are more limited in supply are relatively more scarce than those which are not highly valued and which are more abundant in supply. Differences in **prices,** which measure the exchange value of one good or service compared to another, reflect relative scarcity. This is why automobiles cost more than pencils and why the salary of Larry Bird is higher than the salary of a teacher or electrician.

Teaching Tips:

1. For younger students, the term "scarcity" may be too difficult. It may be better to simply use the word "scarce."

2. The concept of scarcity is a challenging one. A simple rule to help children determine whether an item is scarce is this: If the item is made *freely* available, does more than one person want it? If the answer is "yes," then the item is considered scarce. For example, a teacher who offers a free pencil to the class will discover that more than one

child wants the pencil. In this situation the pencil is scarce. If a piece of gold were offered, the same thing would happen. However, if students are freely offered a pencil *or* the gold, most will choose the gold. In economics *both* items are considered scarce, but since gold is relatively more scarce, it commands a higher price.

3. Do not expect all of your students to master the concept of scarcity the first time. It is not that easy! However, if you make the effort to use the concept in your day to day classroom routine (Six students want the playground ball. It certainly is scarce!) and in future economics activities, your students will begin to grasp the concept.

Teaching Procedure:

1. To motivate and challenge your students, ask them if they would like to do an activity using play dough that will help them learn a concept that high school and college students learn.

2. Ask students to identify various things (goods) at home that they value highly. Briefly discuss student responses.

3. Display an inexpensive good (pencil, eraser, etc.) to the class. Ask students if they would like to have the good (apply the "scarcity rule" described in Teaching Tip 2).

4. Explain that this good and other goods are *scarce* (write on board). Explain scarcity giving other examples.

5. Ask students to identify things that are *not* scarce (air we breath in class, snow in a blizzard, salt water and sand at the beach, etc.) Be careful - in certain situations air *is* scarce (under water, outer space). Also, clean air is sometimes scarce (smoggy cities).

6. Ask students if they would like to produce some scarce goods out of play dough. Tell students to use their productive resources (land, labor, and capital) as in Lesson 2 to produce their scarce good. Allow 5-8 minutes for each child to make a play dough sculpture. You might have to give students some suggestions. Walk around the room and encourage students. Do not forget to make something yourself!

7. Discuss the students' sculptures, analyzing if each is scarce. You can apply the "scarcity rule" here, too.

8. Write "scarce" or "scarcity" on the board and practice spelling it with the students. Then have students close their eyes and spell out loud. Have students write "scarce" or "scarcity" several times on scrap paper or in their economics notebook.

9. Review the meaning of scarcity one more time. Congratulate students on learning "what older students learn."

Follow-up and Extension Activities:

1. Follow this activity with an appropriate audiovisual lesson on scarcity. "Winnie-the-Pooh and the Value of Things, Lesson 1," is appropriate.

2. Include the word "scarce" or "scarcity" on the next spelling test.

3. Discuss whether or not services are also scarce. They are, since the services that people provide are valuable, and other people are willing to pay to gain the benefits of the services. The "scarcity rule" applies in this instance, too. If the service was free, more than one person would want to obtain the service.

4. Ask students to make something that is *more* scarce than the first item they produced. Discuss relative scarcity and how prices reflect relative scarcity.

Resource Materials:

1. Lesson 1 in *Children in the Marketplace: Lesson Plans in Economics for Grades 3 and 4* is a good scarcity lesson.

2. *Strategies for Teaching Economics*. Both the primary and intermediate level booklets contain several lessons on scarcity.

3. *Elementary Economist: Scarcity*. In this issue, creative lessons developed by teachers at various grade levels cover the concept of scarcity.

Lesson 4
Opportunity Cost: Part I - Consumers

Opportunity Cost: The Best Alternative Not Chosen

Teaching Objectives:

1. To teach what opportunity cost means.
2. To teach that there is an opportunity cost to every consumer choice.
3. To teach students to identify the opportunity cost of a consumer choice.

Economic Concepts/Vocabulary:

Scarcity, Trade, Opportunity Cost, Consumer, Producer

Time Allowed:

30-40 minutes

Materials:

- Enough play dough modeling compound for each student to produce a small sculpture
- Small articles of "capital" (pencils, scissors, rulers, etc.)

Discussion of Economic Concepts:

When individuals produce **goods** or **services**, they normally **trade (exchange)** most of them to obtain other more desired goods or services. In doing so, individuals are immediately confronted with the problem of **scarcity** - as **consumers** they have many different goods or services to choose from, but limited **income** (from their own production) available to obtain the goods and services.

Scarcity dictates that consumers must **choose** which goods and services they wish to purchase. When consumers purchase one good or service, they are giving up the chance to purchase another. The best single alternative not chosen is their **opportunity cost.** Since a consumer choice always involves alternatives, every consumer choice has an opportunity cost.

Teaching Tips:

1. Students frequently think that the sum of their various alternatives is their opportunity cost. This is incorrect, since only *one* alternative choice is actually forgone. For example, suppose John is willing and able to purchase choice A, B, or C, in that order of

preference. He will purchase A. Choice B, not B *and* C, is his opportunity cost. Step 5 in the teaching procedure below teaches this important point.

2. Do not introduce the concept of money in this lesson. Students need to understand that the ability to purchase (income) comes from prior production of actual goods and services.

3. Make sure students understand that the good they produced for trading is *not* their opportunity cost. Rather, their second choice from the goods they want to trade *for* is the opportunity cost.

Teaching Procedure:

1. Briefly introduce the concept of opportunity cost, giving several examples. Tell students that the play dough activity they will do next will help them better understand this concept.

2. Ask students if they have ever purchased something at a store. Ask them if they would like to have a store in their classroom. Identify a table in the classroom to serve as a store. Point out that there is one major problem - there are no products in the store! Ask students if they would like to produce some products for the store.

3. Tell students that they are now **producers**. Briefly explain this concept. Pass out a small amount of play dough to each student. Tell students to use the productive resources (land, labor, capital) to produce one or two goods similar to those they produced in Lessons 2 and 3. Tell them to do good work, since their products will be sold at the class store!

4. After 5-8 minutes let each child describe his or her product(s) and place it in the store.

5. Tell the students that now they will be **consumers**. Briefly explain this concept. Ask for volunteers to shop at the store. The volunteer must prefer at least two of the other goods to the one he has produced himself. Choose a student and ask him to identify one good that he produced. Then ask the student to identify the two goods produced by other classmates that he *most* wants and would be willing to trade for. Place these two goods on the store "counter." The student then must trade his own good for one of these two goods. Identify the good *not* purchased as the student's opportunity cost. Ask, "What would be the opportunity cost if he chose the other good instead?" (The good *not* chosen). Let the student take the good to his desk. Ask other students whose products still remain to shop in the store to go "shopping."

6. Next, ask some of the students to identify three goods (instead of two) that they most want and would be willing to trade for. The opportunity cost will then be the one good that was their *second* choice. (See Teaching Tip 1.)

7. Conclude the activity by summarizing the concepts identified in the Teaching Objectives above.

Follow-up and Extension Activities:

1. Show and discuss the filmstrip, "What Does it Cost?" from the *Winnie-the-Pooh and the Value of Things* kit.

2. Use the concept of opportunity cost as much as possible in your classroom. "If we go to the zoo on our field trip, we can't go to the Children's Museum. The visit to the Museum would be our opportunity cost," etc.

Resource Materials:

1. "What Does It Cost," from *Winnie-the-Pooh and the Value of Things* (primary).

2. "Choices," from the *Common Cents* series (primary).

3. *Elementary Economist*, issue on "Opportunity Cost."

4. *Strategies for Teaching Economics*, primary and intermediate level.

5. "Choice," Lesson 1 from the *Trade-Offs* video/film series (grades 3-6).

6. Lessons 1, 3, and 4 from the *Give and Take* video series (grades 6-8).

Lesson 5
Opportunity Cost: Part 2 - Producers

Opportunity Cost: Producers Have to Choose, Too

Teaching Objectives:

1. To teach that producers, as well as consumers, have to make choices how to use scarce resources; and that these choices also have opportunity costs.

Economic Concepts/Vocabulary:

Scarcity, Opportunity Cost, Producer, Productive Resources

Time Allowed:

25-30 minutes

Materials:

- Enough play dough modeling compound for each student to produce a small sculpture
- Small articles of "capital" (pencils, scissors, rulers, etc.)

Discussion of Economic Concepts:

Producers, as well as **consumers**, are confronted with the problem of **scarcity**. The **productive resources** that producers acquire can be used to produce a wide variety of **goods** and **services**. Producers, as **entrepreneurs**, must **choose** *which* goods and services to produce. If they use their scarce productive resources to produce one thing, then they must forego using these resources to produce another. The best production alternative that producers do *not* choose is their **opportunity cost**.

Producers must also decide *how* to produce these goods and services. They must determine the mix of land, labor, and capital to use in production. They generally try to produce goods and services using the most efficient mix of resources possible. If producers do not do this, they may be unprofitable, and may be forced out of business by other more efficient businesses.

Teaching Tips:

1. The focus of this lesson is on the *what to produce* choice faced by producers. Even though student choice is limited to two categories of goods in this lesson, students will see clearly how the decision to produce one thing means not producing something else. Every production decision has an opportunity cost.

2. Students have the tendency to produce food instead of clothing. For the teaching activity to be successful, a sufficient number of *both* items needs to be produced. Before students begin, it is helpful to mention various clothing items (shoes, belts, rings, necklaces, hats) they may want to produce.

3. This is an important lesson because most lessons on opportunity cost focus only on the opportunity cost of consumer choice. Few lessons emphasize that producers also must make choices that have opportunity costs.

Teaching Procedure:

1. Ask students if they would like to be producers and make some goods using productive resources, as in earlier lessons.

2. Distribute a small amount of play dough to each student and tell them to use their productive resources (play dough, labor, and articles of capital) to produce one of two goods: something to eat (food) or something to wear (clothing).

3. After 5-8 minutes collect and admire the finished products. Place them on a table in front of the room.

4. Have the students count how many items of food and clothing have been produced. List the number on the board.

Example:	Food	Clothing
	12	9

5. Tell the class that they may want to make some changes. Perhaps they would like to have more food or more clothing. Take a vote to determine if the class would like more food or more clothing. In this example, assume that class votes for more food.

6. Choose one of the clothing items and slowly and deliberately crush and mold it into a crude food item (apple, pancake, etc.). Repeat this with two more clothing items. As the class moans and groans, tell them that you are only doing what they wanted - producing more food.

7. After you have finished, announce that the class is definitely better off now, since there is more food. Wait a few moments. Hopefully, a perceptive student will respond, "Wait a minute! That may not be true. Now we don't have as much clothing!"

8. Discuss this trade-off with the class. Emphasize that because of the scarcity of productive resources, the opportunity cost of getting three food items was three clothing items. Students should understand that the opportunity cost for producers is the good or service not produced as a result of producing something else.

Follow-up and Extension Activities:

1. To elaborate on the concept of opportunity cost, discuss the value of *time*. Ask students what the opportunity cost is of watching a favorite T.V. program (not being able to read a book, play a game, talk on the phone, do chores, etc.). Emphasize that students should consider opportunity costs when making decisions regarding use of their time. After a week-end, ask students to describe the decisions they made regarding their time, and to identify the opportunity cost of those decisions.

2. Bring various goods to class. Place one of these goods on a table in front of the room. Ask students what productive resources were used to make the good. Write these on the board. Then ask students what other goods were perhaps *not* produced as a result of the decision to produce the good. This is a nice theme for a bulletin board.

3. Repeat the exercise in 2 above, this time analyzing the productive resources used to produce *services*. Point out that the same productive resources frequently can be used to produce a good or a service.

Resource Materials:

See materials listed in Lesson 4

Lesson 6
Trade

Trade: Getting the Things We Want

Teaching Objectives:

1. To teach that people trade to obtain most of the goods and services they want, and that in order to trade one must produce a good or service that other people want.
2. To teach that both people benefit when a voluntary trade (exchange) is made.
3. To teach that trade without money (barter) is inefficient, since it is frequently difficult finding someone who is willing to trade.

Economic Concepts/Vocabulary:

Wants, Production, Trade, Barter, Exchange, Consumer Sovereignty

Time Allowed:

20-30 minutes

Materials:

- Enough play dough modeling compound for each student to make a small sculpture
- Articles of "capital" (pencils, scissors, rulers, etc.)

Discussionof Economic Concepts:

People rarely produce all of the **goods** and **services** they want themselves. Instead, they produce a limited variety of goods and services, and then **trade (exchange)** with others to obtain the goods and services they have not produced themselves.

Voluntary trade between individuals is a positive sum event. This means that when trade is voluntary, both parties benefit. There is not a winner and a loser. If both parties did not believe they would benefit from the trade, it would not take place.

Trade without money is known as **direct exchange**, or **barter**. Barter is inefficient because there must first be a coincidence of wants. In other words, for trade to take place, each person must want what the other person has, and must be willing to trade for it. The use of **money** permits **indirect trade**. In indirect trade, individuals accept money for their own products, and then use the money to purchase other goods and services. With money, a coincidence of wants is not required, and the costs of trade are therefore greatly reduced. Money makes trade much more efficient.

Teaching Tips:

1. Encourage students to make something that *other* students want. This emphasizes the idea of consumer sovereignty. Also mention that the quality must be good; otherwise students might not want to trade with them.

2. To create more demand for their products, the students may want to "advertise." Before the trading begins, let students tell why other students (consumers) should trade for their product.

3. If time permits, repeat this trading activity. Let students produce something different if they had difficulty trading during the first round.

Teaching Procedure:

1. Ask students if they would like to do another economics lesson using play dough. Distribute a small amount to each student and let them use their productive resources to produce one or two goods. Tell students that as producers, they should attempt to produce what *consumers* (other students) want.

2. Let the students describe what they have produced. Make nice comments about the students' creations. Do not forget to make something yourself!

3. Tell students to decide which good produced by *another* student they would like to have.

4. Tell students that you are going to give them 4 or 5 minutes to trade for the good that they want most. Encourage students to make as many trades as they wish in the trading period. Students do not have to trade if they do not want to.

5. After the trading session is over, let students describe briefly what they acquired. Discuss the following questions:

   a. Why do people trade? (They expect to be better off as a result of trade. They traded an article they valued less for an article they valued more.)

   b. Did everyone get the thing they wanted most? (No) Why not? (I wanted what she had, but she did not want what I had; someone made a better product than mine; etc.)

   c. How many trades did it take to get the good you wanted? (Answers will vary.) Why? (The student I wanted to trade with did not want what I had, so I had to make more trades, etc.)

   d. What would you do differently if you did this again? (Make something different, make a better product, etc.)

   e. Who benefited when you made a trade, you or the other person? (When trade is voluntary, *both* persons benefit.)

f. How might we have made our trading easier? (Use money, so both students would not have to want what the other had in order to trade.)

g. What happens if businesses make goods and services that consumers do not want to buy? (Will not sell the goods and services, and will go out of business.) What happens to businesses who produce goods and services that many consumers want? (They will make money.) Who is really the "boss" - the producer or consumer? (In a market, the consumer is ultimately the boss i.e. is "sovereign.")

Follow-up and Extension Activities:

1. This is a good time to study advertising. Discuss the various types of advertising. Analyze newspaper and magazine ads that students bring to class. Create a bulletin board using this theme. Let students write their own advertisements. Emphasize that the purpose of advertising is to increase demand for a good or service by providing information to consumers.

Resource Materials:

1. For primary students, the *Winnie-the-Pooh and the Value of Things* filmstrip 1, "The Value of Things," and "Trading," from the *Common Cents* series can be used to reinforce the concept of trade.

Lesson 7
Money

Money: Making Trade Easier

Teaching Objectives:

1. To teach that the use of money as a medium of exchange is more efficient than barter because money reduces the cost of trade.

Economics Concepts\Vocabulary:

Money, Trade, Exchange, Barter

Time Allowed:

25-30 minutes

Materials:

- Enough play dough modeling compound for each student to make a sculpture
- Articles of "capital" (pencils, scissors, rulers, etc.)
- Play money

Discussion of Economic Concepts:

Barter (direct exchange) is inefficient because there must first be a coincidence of **wants**. Each trading partner must want what the other one has, and must be willing to trade for it. Using **money (indirect exchange)** is much more **efficient** because a coincidence of wants is not required. When trading, people accept money and then use the money to purchase other **goods** and services.

Using money as a **medium of exchange** greatly lowers the cost of trade by reducing the time and resources required for finding a trading partner. This permits more time for the actual production of goods and services. By greatly reducing the costs of trade and therefore expanding the size of potential trading markets, the use of money encourages people to specialize more in what they produce. This, in turn, results in much greater productivity and in much higher standards of living.

Teaching Tips:

1. Because this lesson builds on Lesson 6, it is best to teach it soon after Lesson 6 is completed.

Teaching Procedure:

1. Tell students that you are going to give them another chance to produce and trade goods. Pass out the play dough and let students create goods as in Lesson 6. Stress that as producers, they must produce goods that consumers (other students) want. They should also produce a high quality product.

2. Let the students describe what they have produced. They may want to "advertise" why their product is the best one for a classmate to purchase.

3. Tell students that you realize that in the previous lesson, some of them had trouble trading for the exact good they wanted, and that you want to make it a bit easier for them. Ask students if they would like to have some money to use while trading. Pass out $10 in play money (one $5 and five $1 bills) to each student.

4. Give students about 5 minutes to trade. Tell them to make the best deals possible, using any combination of goods or money to make trades. Students can make as many trades as they want, however, they do not have to trade.

5. After the trading session is over, discuss the following questions:

   a. Did you get the good you wanted? Why or why not?

   b. Did using money make it easier or more difficult to make a trade? Why? (Using money usually makes trade easier because both people do not have to want what the other has produced.)

   c. When you made a trade or purchase, who benefited? (Both buyer and seller) How do you know? (Because if they did not expect to benefit, they would not trade.)

   d. What could you do the next time to be more sure you get the good you want? (Be careful to produce what the other students want, be sure to produce a high quality good, etc.).

Follow-up and Extension Activities:

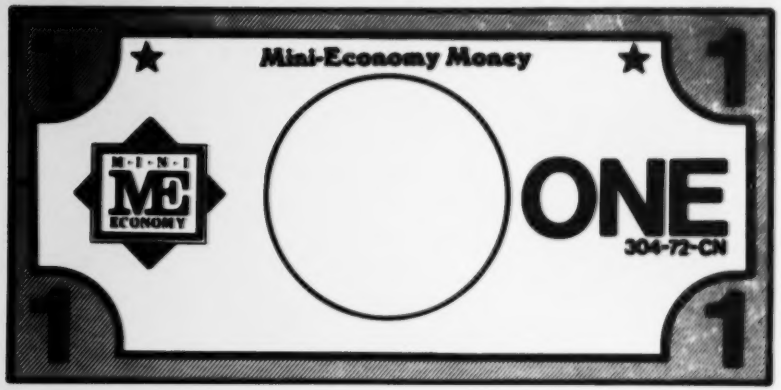
1. Discuss the various items that have been used for money throughout history (Gold, silver, furs, shells, tobacco, wampum beads, rice, salt, etc.). What characteristics make an item useful as money? (Scarce, divisible, portable, durable)

2. Bring to class samples of money from other countries. Can this money be spent in the U.S.? (No) Can our dollars be spent in other countries? (For the most part, no) What must we do to get money to spend when we go to other countries? (We must purchase the other country's money with our dollars. When visitors come to the U.S., they must purchase our dollars with their money.)

3. Let students design some money of their own. Use their finished designs for a bulletin board display.

Resource Materials:

1. The film, "Why Money," from the *Trade-Offs* series is excellent for grades 3-5.
2. *Strategies for Teaching Economics: Primary Level* has a section with various teaching activities on barter and money.
3. The *Elementary Economist* issue on "Money and Exchange" contains a variety of teaching activities for all elementary grades.
4. The short film, "Why We Use Money: The Fisherman Who Needed A Knife," is excellent. While designed for upper elementary, it can be used in virtually all elementary grades.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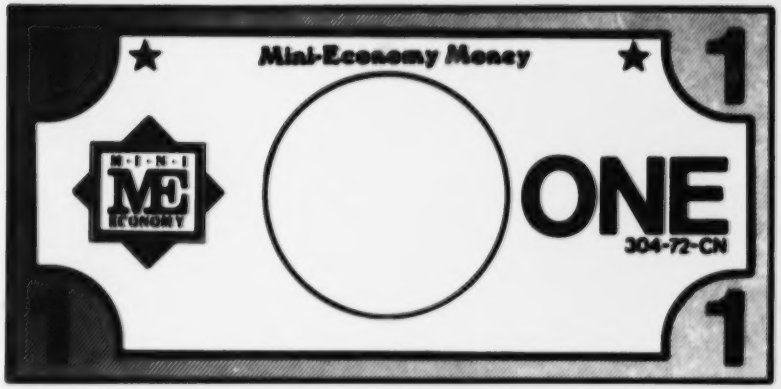
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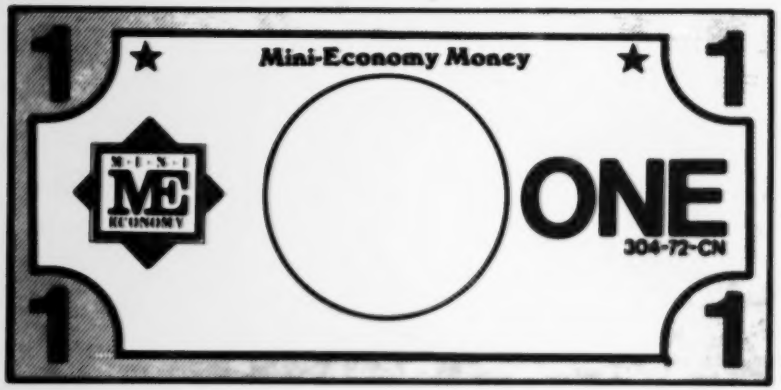
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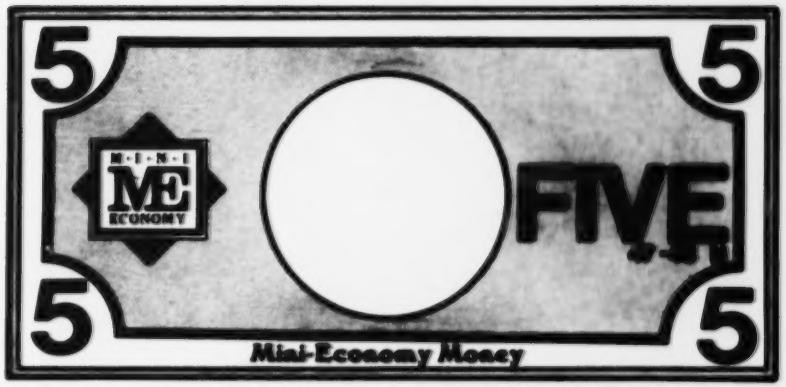
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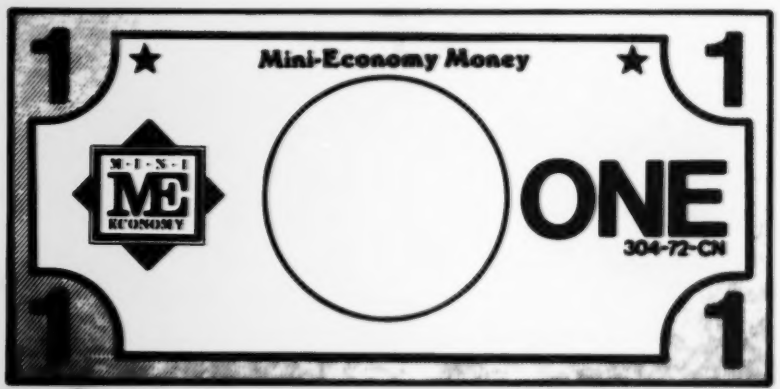
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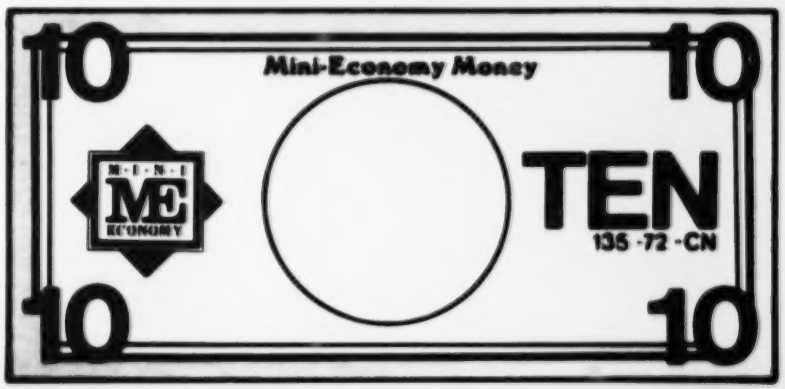
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Lesson 8
Specialization and Division of Labor

Specialization and Division of Labor: Making Production More Efficient

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Teaching Objectives:

1. To teach that specialization and division of labor increase productivity, resulting in higher incomes.

2. To teach some of the disadvantages of specialization and division of labor.

Economic Content/Vocabulary:

Specialization, Productivity, Division of Labor, Efficiency, Productive Resources, Output, Input

Time Allowed:

45 minutes

Materials:

- Enough green, yellow, red, white and brown play dough modeling compound to make about 40 small "hamburgers"
- 6 rulers
- 2 pencils

Discussion of Economic Concepts:

Probably the most important way to alleviate the problem of **scarcity** is to increase **productivity**. Productivity measures the amount of **goods** and **services** produced from a given amount of **productive resources**. Economists refer to the goods and services as **output**. The productive resources used in production are **inputs**. Productivity can be defined as the ratio of output per unit of input.

To increase productivity a business must produce more output per unit of input, or must produce the same amount of output using less inputs. By increasing productivity businesses are using their productive resources more **efficiently**. More efficient production results in higher wages and salaries. One of the most fundamental ways to increase productivity is through **specialization**. One way to specialize is to **divide the labor** in specific production processes. An excellent example of this is an assembly line. Assembly line production is much more efficient than having individual workers making complete products.

Specialization and division of labor have some disadvantages however. In highly specialized production situations, a worker who is absent or inefficient can slow the whole production

process. Also, for many people, producing one type of good or service, or doing only one specific task in the production process can be monotonous. Creativity can be stifled. Workers and businesses must decide if increases in productivity through specialization and division of labor (and the probable increases in profits, wages and salaries) are worth the monotony and reduced creativity.

Teaching Tips:

1. Make sure that you do not assign a large percentage of the students who are more skilled and faster in making hamburgers to the non-assembly line group. Otherwise, more output may be produced by that group and less by the assembly line group - just the opposite result that you want!

2. It is very important to plan carefully how you want the assembly line group to be organized. If necessary make a simple sketch. The attached Assembly Line Pattern should be helpful.

3. To introduce the concept of productivity, show intermediate students the *Trade-Offs* film, "Less and More," before you begin this activity.

Teaching Procedure:

1. Ask the students if they have ever been to a McDonald's, Wendy's, or Hardee's hamburger restaurant. Discuss how the food is prepared and why it is necessary to produce the food quickly. Ask them if they would like to make hamburgers with their play dough.

2. Form two groups of workers. Give each group three rulers, one pencil, plus all five colors of play dough. Students in the non-assembly line group may not divide the play dough by passing some of each color to each student.

3. Show exactly how you want the hamburgers made. There must be two buns 2" in diameter and one piece of meat 1 1/2" in diameter made from white and brown play dough, respectively. (Most of the play dough will be used for meat and buns.) On each hamburger must be three dabs of ketchup (red), three dabs of mustard (yellow), and two pickles (green). There must also be 16 sesame seeds on the top of each bun (use pencils to make tiny "sesame seed" holes).

4. Tell one group that each worker must make complete hamburgers. While this group gets organized, (you can let them soften the play dough) quickly explain the assembly line procedure to the other group. The specific tasks for 14 students might be:

   - 2 students - play dough into balls for buns
   - 2 students - flatten balls into buns
   - 1 student - play dough into ball for meat
   - 1 student - flatten balls into meat
   - 3 students - use rulers to make sure meat patties are 1 1/2" and buns are 2"; make corrections if necessary

- 1 student - assemble bottom bun and meat
- 1 student - put on three dabs of ketchup
- 1 student - put on three dabs of mustard
- 1 student - put on two green pickles
- 1 student - put sixteen sesame seed holes in bun and assemble burgers

Use the attached Assembly Line Pattern to get students stationed in the proper production sequence. The pattern offers suggestions for groups of less than 14 students.

5. Tell both groups that they will have about 7 minutes to produce as many high quality hamburgers as possible. When you stop the production, only completed hamburgers will count. Hamburgers that are not made properly will be rejected.

6. After the activity count the number of complete hamburgers produced by each group. Discuss the following questions:

   a. What productive resources were used in your production? (labor - our work effort; capital - pencil and ruler; land - our workspace, the play dough)

   b. Which group made the most hamburgers, i.e. was the most productive? (Assembly line group)

   c. Why did the assembly line group make more hamburgers? Was it because they worked harder? (No, they specialized by dividing the labor. The non-assembly line group wasted time waiting to use the capital and play dough. The assembly line students only had to learn one task, etc.)

   d. What are some other examples of people specializing in their work? (People learning one job: teaching, carpentry, plumbing, etc.)

   e. What are some examples of division of labor in your house? (Parents and children doing specific jobs around the house). Why do families divide the labor? (More work gets done that way since people don't have to learn as many different tasks and can concentrate on the tasks they do well. This makes families more productive.)

   f. What are some *disadvantages* of specializing and dividing the labor? (Jobs can become more boring and less creative. If one member of the team does poorly or is absent it slows down the whole production process.)

   g. How does specializing and dividing the labor help workers? (As workers become more productive they usually become more valuable to employers, and earn higher wages and salaries.)

Follow-up and Extension Activities:

1. To extend the activity, create two identical "Order Cards," one for each group. On each card have specialized orders that the groups must fill (e.g., 4 hamburgers with ketchup and pickle only, 6 with mustard only, etc.)

2. Arrange a field trip to a local factory where an assembly line is used. Or, visit a local restaurant. Inform the manager beforehand that your class is interested in how the factory or restaurant increases productivity.

3. Ask students to identify other products made on an assembly line (car, computer, television, etc.) Let them draw what they think the production process looks like. Require them to identify and label the various productive resources, including the types of jobs on the assembly line. Have students write a short paragraph describing a day's work on this assembly line.

4. Pose this question for discussion: "You have the chance to make $8.00 an hour working on an assembly line in a factory that makes chairs. You can work in a small carpentry shop and custom design and make complete chairs, but will earn only $6.00 an hour. Which would you choose? Why?"

Resource Materials:

1. The *Oak Lane Tales* video entitled "Productivity" introduces the topic of productivity. (Best for grades, 2-4)

2. The *Trade-Offs* film, "Less and More," introduces the concept of productivity. (Best for grades 4-6)

3. The *Trade-Offs* film, "Working Together," teaches how division of labor increases productivity. (Best for grades 3-6)

4. *Strategies for Teaching Economics: Primary Level* has several lessons on specialization.

5. The short video, "The Man Who Made Spinning Tops," is excellent for grades 1-6.

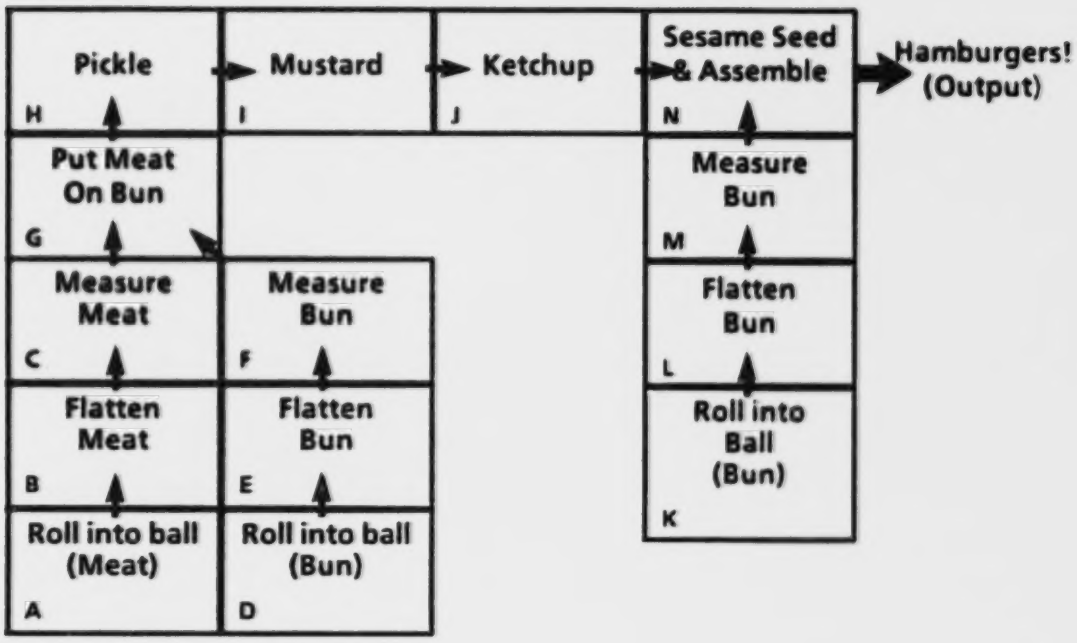
6. The *Business Basics* curriculum of Junior Achievement contains a motivating specialization simulation.

LESSON 8

Specialization

Basic Assembly Line Pattern

(10-14 Persons)



Suggestions:

- *Jobs A and B, D and E, and K and L can be combined if necessary*
- *Job G can also be eliminated*
- *Suggestions for additional jobs: Help Where Needed person*
  Quality Control person

Lesson 9
Capital

Capital: Making Work More Productive

Teaching Objectives:

1. To teach how using physical capital in the production process increases productivity.
2. To teach how technological improvements in capital increase productivity.

Economic Concepts/Vocabulary:

Production, Productive Resources, Capital, Human Capital, Productivity

Time Allowed:

40-45 minutes

Materials:

- Green, yellow, red, white, and brown play dough modeling compound
- 2 round pieces of 1/4" plywood, each 2" in diameter
- 1 round piece of 1/4" plywood, each 1 1/2" in diameter
- 1 pencil
- 3 rulers
- 1 round piece of 1/4" plywood, each 2" in diameter with 16 finishing nails hammered halfway into the wood

(For larger classes, up to three extra plywood disks may be needed. See attached 14 person Assembly Line Pattern).

Discussion of Economic Concepts:

Because **productive resources** are limited, it is important to use them efficiently in the **production** process. Throughout history, greater **efficiency** (increased **productivity**) in production has resulted largely from technological improvements in **physical capital**. Using improved capital has allowed workers to be much more productive, (more output per hour worked), which has resulted in higher incomes and higher standards of living. However, improvements in capital make some jobs obsolete, and force some workers to change jobs.

The concept of **human capital** is also very important. Human capital refers to the skills gained through education and training. Workers who have acquired high levels of human

capital are generally more productive than those who have not, and therefore earn higher wages and salaries.

Teaching Tips:

1. As in Lesson 8 on specialization, it is very important to have the new assembly line process planned ahead of time. Use the attached diagram, Assembly Line Using Improved Capital, to help you.

2. You may be able to improvise and use other kinds of "capital" in the production process. The important thing is to use capital that dramatically increases the productivity of one group over another.

3. Be sure to explain that the wooden discs *represent* real capital (tools, machinery, equipment, buildings) that businesses use.

Teaching Procedure:

1. Ask students if they would like to do another hamburger production lesson using play dough. Tell the students that they will have to produce as many hamburgers as possible in a given period of time, as in the previous lesson on specialization.

2. Divide students into the *same* two groups as in the specialization lesson. Give the assembly line group the same "capital" used in that lesson (1 pencil, 3 rulers). Pass out identical amounts of play dough to each group.

3. Show the other group how to use the <u>new</u> capital and briefly allow them to get organized before production begins. Use the attached Assembly Line Using Improved Capital diagram to help you. (To make hamburgers and buns, roll the play dough into balls and then press with the plywood circles until the play dough flattens to the circle's edge. The circle with the nails is a very quick way to imprint 16 sesame seed holes in the top bun.)

4. Allow about 5 minutes for production. Each hamburger must have 2 inch buns, a 1 1/2 inch meat patty, 3 dabs of ketchup and mustard, 2 pickles, and 16 sesame seeds. Count the number produced by each group, making sure that all hamburgers meet the correct standards.

5. Discuss the following questions:

   a. Did both groups divide the labor? (Yes) Which group made the most hamburgers? (The group with improved capital)

   b. Did the most productive group produce more because they worked harder? (No) Why did they produce more? (They had *better* capital.)

   c. What did the wooden discs represent? (Actual tools, equipment, and machinery used by businesses)

d. Why does having better capital make a difference? (It makes workers more *productive* i.e., they can produce more in the same amount of time.)

e. Do you think that workers who use modern, more efficient capital would be paid less or more than workers who do not use capital, or who use older, less efficient capital. (More, since more efficient capital lets workers produce more goods or services in the same amount of time, making the workers more valuable to their employers.)

f. What are ways that other producers of goods and services use capital to improve productivity? (Farmers use tractors, combines, plows; dentists use instruments, dentist chair, etc.)

Follow-up and Extension Activities

1. Have students research the advancement of technology in a specific industry, such as agriculture or dentistry. There are many other examples. Have students draw or find pictures of the various stages of technology. Use this for a bulletin board theme.

2. Have students invent a new technological process or machine for producing some product. Let them draw the process or machine and explain how it works. Accept any creative ideas.

3. Expand the concept of capital to include *human capital*. Explore the training and education needed to produce various goods and services. How do people get training and education? Does more education and training generally result in higher incomes? (Yes. Conduct a confidential survey, or analyze the Want Ads in the newspaper to see if this is true.) What is the opportunity cost of acquiring more education and training? (Giving up the opportunity to earn income in the present; and the goods and services one *cannot* buy or the savings that *cannot* occur, because of tutition, book costs, etc.)

Resources Materials:

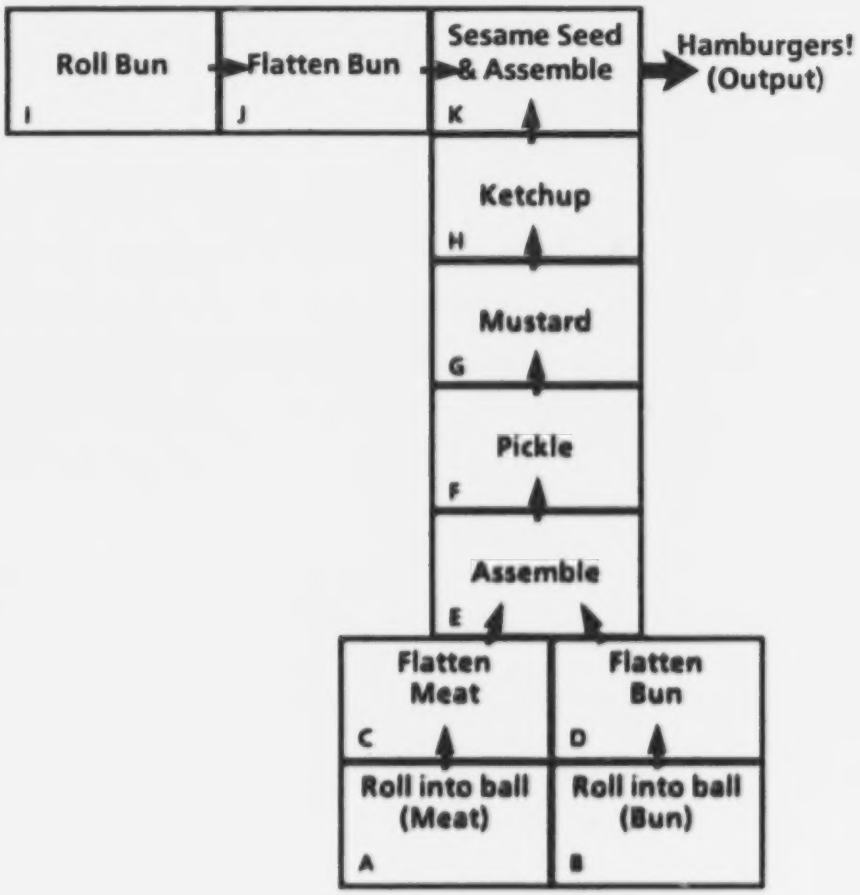
1. The *Oak Lane Tales* filmstrip/video entitled "Productivity" introduces the topic of productivity. (Best for grades 2-4)

2 The *Trade-Offs* films, "Does It Pay" and "Learning and Earning," are very good for grades 3-6.

3. *Elementary Economist* issue "Productivity and Capital Goods."

LESSON 9
Capital

Assembly Line Pattern Using Improved Capital
(7-11 Persons)

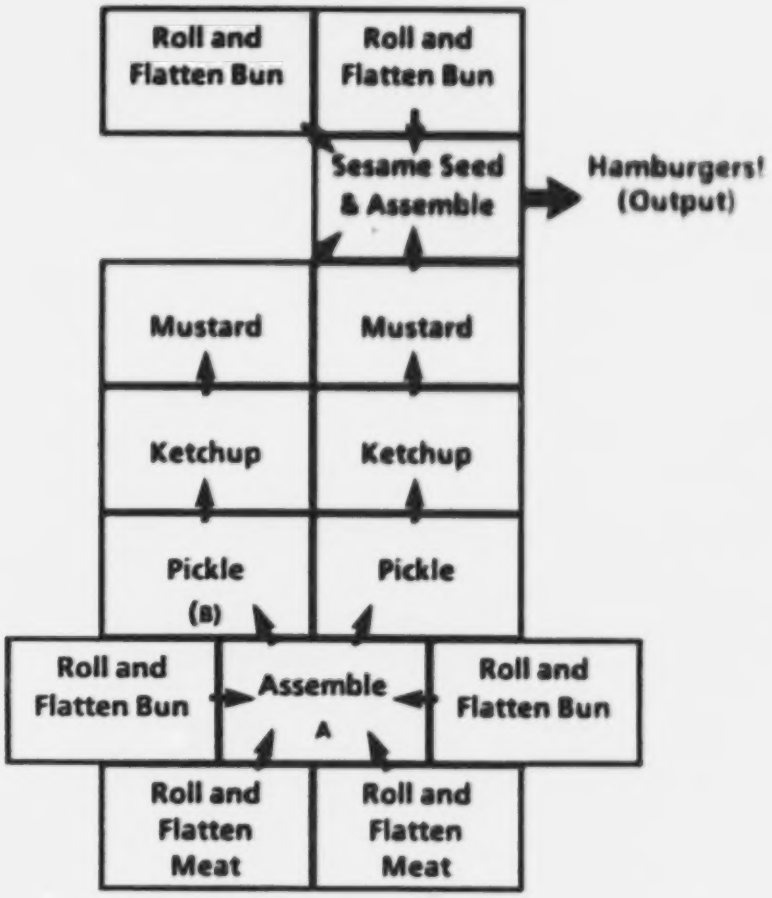


Suggestions:

- *For a 10 person assembly line eliminate person E (Assemble)*
- *For 9, 8, or 7 person assembly lines also combine jobs A and C, B and D, or I and J*
- *Suggestions for additional jobs: Help Where Needed person*
  Quality Control person

LESSON 9
Capital

Assembly Line Pattern Using Improved Capital
(12-14 Persons)



Suggestions:

- *For a 13 person assembly line eliminate person A (Assemble)*
- *For a 12 person assembly line also eliminate one pickle person B*
- *Suggestions for additional jobs: Help Where Needed person*
  Quality Control person

Lesson 10
Saving and Investing

Saving and Investing: Planning for the Future

Teaching Objectives:

1. To teach that individuals either save or consume after-tax income.
2. To teach that saving has an opportunity cost - giving up current consumption.
3. To teach that consuming has an opportunity cost - giving up *greater* future consumption.
4. To teach that savings which are invested in the production or purchase of capital result in increased productivity, and create the possibility of greater *future* income.

Economic Concepts/Vocabulary:

Saving, Investment, Income, Consumption, Opportunity Cost, Choice, Productivity

Time Allowed:

Three 25-30 minute lessons, taking place at least one day apart

Materials:

- Green, yellow, red, white and brown play dough modeling compound
- 6 round pieces of 1/4" plywood, each 2" in diameter
- 4 round pieces of 1/4" plywood, each 1 1/2" in diameter
- 6 rulers
- 4 pencils
- 2 pieces of 1/4" plywood, each 2" in diameter and each with 16 finishing nails hammered halfway into the plywood
- A large bag of jellybeans or other treats

(For larger classes, several extra plywood discs may be needed.)

Discussion of Economic Concepts:

Most people understand that acquiring and using **physical capital** (tools, equipment, etc.) increases **productivity**. However, people do not always understand that there is a very real **opportunity cost** to acquiring capital - the giving up of present **consumption**. All the capital that we see in the world around us came into being because the savings of individuals and businesses were **invested** in the production of those capital goods. Without the restriction of

current purchases of **consumer goods**, investing in the production of **capital goods** is impossible.

Saving is important because the increased productivity which results from saving and investing creates the possibility of greater *future* consumption. Savings and investment are necessary for a society to experience significant economic growth and to greatly improve its standard of living.

Teaching Tips:

1. Having students first trade their hamburgers for jellybeans, and then trade the jellybeans for the capital, emphasizes that investing in capital has a very real opportunity cost - having to give up present comsumption.

2. Be sure to keep the time of production constant in each round. Students will see how the capital increased their productivity - more output in the same amount of time.

3. Encourage groups to designate production managers who have good leadership abilities.

4. For older students you can change this activity slightly to make it even more realistic. Instead of setting prices for the capital, *auction* only *some* of the capital during each round. This illustrates that capital is scarce and that its price is determined by producers bidding for its use. Those producers who value the capital most, and who can afford it, will get to use it.

   Auctioning the capital also teaches another very important point - that the more valuable the capital is (i.e. the more it will increase productivity), the higher its price will be. The two groups will bid higher prices for the capital that they think will greatly increase their hamburger production. The students will have to decide (as real businesses do) if the price of the capital is worth the increase in production it will generate.

5. You can also allow students to take out jellybean *loans* to purchase capital in round 2. Students will understand that the increased productivity resulting from the capital purchases made with the loan may be worth the interest. Charge 1 or 2 jellybeans of interest for each 4 or 5 borrowed. That's a high rate of interest, but it gets the point across.

Teaching Procedure:

DAY I:

1. Tell students you are going to let them do another economics assembly line activity. This one gives them the chance to earn some jellybeans.

2. Let the same two student production groups organize themselves into assembly lines as in Lesson 8 on specialization. Give each group an adequate supply of play dough, one or two rulers, and one pencil. Do *not* give the groups any more capital. Each group should designate a production manager.

3. Tell students that you will give them about 5 minutes to produce as many hamburgers as possible. Also tell them that you will pay each group two jellybeans for each *correctly* made, complete hamburger. Groups may use only the capital provided by the teacher.

4. After 5 minutes of production, pay each group for their completed hamburgers. Before the students eat the jellybeans, tell them that you have a deal for them to consider. If they choose, they can use some or all of their jellybeans to purchase additional pieces of capital to use in the next day's hamburger production. Here are some suggested jellybean prices:

ruler - 2
pencil - 2
2" plywood disk - 7
1 1/2" plywood disk - 7
2" plywood disk with nails - 7

5. Let each group discuss the possibilities and decide how much, if any, to invest. The group must pay for the capital and store it for the next day's activity. Let students eat the jellybeans they choose to consume.

DAY II:

1. Repeat the activity, keeping the production time constant. Students should organize their assembly lines as in Lesson 9 on capital. Since students now are using more capital, they will increase their productivity. The groups must again make an investment/consumption decision to prepare for the final round. Students should consume the jellybeans they do not invest.

DAY III:

1. Repeat the activity, again keeping the production time constant. Since this is the last round, students may eat any jellybeans they earn.

2. Debrief the activity with the following questions:

   a. What choices did you have with your jellybean income? (1. Save and invest; or 2. consume)

   b. What happened to your production in each round? (Increased) Why? (Use of more and better capital)

   c. What was the opportunity cost of consuming the jellybeans during the first rounds? (Not saving, ie, not having *more* to consume in the *future*)

   d. What was the opportunity cost of saving in those rounds? (Not being able to consume in the present)

   e. Is it easier to save/invest or to spend/consume? (Probably more difficult to save/invest, since this takes more discipline and patience)

f. Does every investment succeed? (No. There is risk in every investment decision. Investment in capital may make a business more *productive*, but not necessarily more *profitable*. The concept of profit will be expanded in Lessons 11 and 12.)

Follow-up and Extension Activities:

1. You may want to study *how* savings are channeled into investment. When people save, they usually do not invest directly into the purchase of capital. They open savings accounts, purchase stocks or bonds, buy certificates of deposit, etc. Interested students could study what banks do with deposits, how loans are made, etc. Or, students could do a simple study of stocks and bonds. It may sound difficult, but it really is not, and students will find it very interesting. Why not invite a banker or stock broker to class and let them discuss these topics with the class?

2. People borrow for many reasons. Discuss loans and why people get loans. Discuss how borrowing for the present consumption of consumer goods differs from borrowing for the purchase of capital goods (unlike borrowing for consumption, borrowing for investment in capital goods has the potential for greater *future* consumption). Is it wise to borrow heavily for current consumption? (Probably not, since in the future these loans must be repaid with interest.)

Resource Materials:

1. "Banking" in the *Common Cents* series for primary students mentions this topic and banking in general. (Best for grades K-2)

2. The *Oak Lane Tales* video/filmstrips "Productivity" and "The Bank" cover saving and investment. (Best for grades 2-4)

3. The *Trade-Offs* films/videos "Does It Pay?" and "Learning and Earning" teach the concept of investment in capital. (Best for grades 3-6)

4. "Let's Save: Opportunity Cost," and "A Key to Productivity," from the *Give and Take* video series are both good (grades 6-8).

Lesson 11
Market Price I

Market Price: Changes in Supply

Teaching Objectives:

1. To teach the Law of Supply - that producers will supply more at high prices than at low prices; and that they will supply less at low prices than at high prices.

2. To teach that an increase in supply of a good or service, with demand staying the same, will cause its price to fall; and that a decrease in supply of a good or service, with demand staying the same, will cause its price to rise.

Economic Concepts/Vocabulary:

Production, Supply, Demand, Specialization, Market Price

Time Allowed:

45-50 minutes

Materials:

- Three different colors of play dough modeling compound
- Revenues Worksheets

Discussion of Economic Concepts:

Production must take place to **supply** goods and services. The **Law of Supply** states that suppliers will supply more at high prices than at low prices. In other words, there is a direct relationship between price and the quantity of goods producers will supply.

The **market price** of a good or service is determined by the interaction of supply and demand. If other things do not change, the market price of a good or service will decrease if supply increases. The market price will increase if supply decreases. In a **competitive market** of many buyers and sellers, producers must "take" the market price of the good or service they produce. They have little or no power to control prices.

If producers cannot make profits at the market price, they must increase efficiency by reducing their costs, or they must produce a different good or service.

Teaching Tips:

1. Older students work faster and will produce more products than younger students. For this reason, you may have to revise the Supply and Market Price Chart below by changing the range of the number of goods in the rows. For example, in the first row instead

of 0-8 items, put 0-10. And in the second row instead of 9-12, put 11-14, etc. Another way to handle this situation is to shorten the production time of the older students, and continue to use the given Price Chart. In any case, *do not* let the groups "over-produce." Stop production *before* the supply of goods increases to the point where the market price is $2.00 for all goods.

2. Be fairly strict on quality control. In their haste, students will create sloppy products. Do not accept them.

3. In any market, it is the interaction of supply *and* demand which determines a market price. In this lesson the demand is assumed to be constant, and it is only the supply that changes. In Lesson 12, demand will change as well.

4. Groups need equal numbers of students. In groups that have an extra student, create a non-producing quality control job. Rotate this job to a new student in the group in each production round.

Teaching Procedure:

1. Tell students that you are going to let them participate in an economics production contest to see who can make the most money. If you like, specify a reward for the winning group.

2. Divide students into groups of 5-8, and seat each group around their "factory" (table). Separate the groups as much as possible. Each group must choose a production manager and an accountant, who should be a good leader and a good math student, respectively.

3. In this activity there are three separate production rounds of about 5 minutes each. (See Teaching Tip 1.) In each round each group produces as many baskets of apples, cups and saucers, hammers, or shirts as it can. Groups do *not* have to make some of each good; they can produce any combination. Show examples of each good. Each good produced must be the same size as the examples, and must contain at least *two* colors of play dough. (e.g. hammer has a red handle and green head; shirt is brown with red buttons, etc.)

4. Tell each group that after each round you will pay from $2.00 to $10.00 for each good the group produces. The exact market price will depend on the supply of goods that *all* the groups produce. Tell the class that we are assuming that the demand for each good is the same and does *not* change. Only the supply changes. The group that earns the most money wins.

5. Distribute adequate amounts of play dough to each group. Students must use only their hands in this activity - no capital allowed. However, students may specialize and/or divide the labor (assembly line) if they choose.

6. Give each group accountant a Revenues Worksheet (attached), to be completed after each round.

7. Complete production round 1. Students must put all completed goods on the production manager's desk. Examine the goods. Do not accept those which are sloppily made.

8. Each production manager must announce how many of each good his group produced. The teacher then sums the group totals to determine the *class* total of *each* good. Using the Supply and Market Price Chart (write on chalkboard), the teacher then determines how much to pay for each good. For example, if the *class* total for hammers is from 0-8, the teacher pays a market price of $10.00 for *each* hammer produced by any group. If the *class* total for hammers is 9-12, then the teacher pays a market price of $7.00 for *each* hammer produced by any group. The teacher uses the same chart to determine the market price for each good, and writes each market price on the board as a guide for round 2. The student accountant for each group uses the Revenues Worksheet to compute the total revenues earned for each good, and then sums these revenues to determine an amount for the round.

MARKET SUPPLY AND MARKET PRICE CHART
(Assume that DEMAND is Constant)

Goods Supplied to the Market by the class:	Resulting Market Price
0-8	$10.00
9-12	$ 7.00
13-16	$ 5.00
17-20	$ 3.00
Over 20	$ 2.00

9. As the accountant figures the revenues, the groups should "destroy" their goods and plan a new production strategy. They can see the new market prices on the board. Obviously, there is a temptation to produce more of the good that has the highest market price as determined during the first round. However, if all the groups adopt this strategy, the increase in supply will cause the price to drop in round 2! After the groups have determined a production strategy, begin round 2.

10. At the end of round 2, use the Supply and Market Price Chart to determine the new market prices and write them on the board. Let the accountants determine group revenues. Give the groups a few minutes to determine a production strategy for the final round.

11. Complete round 3, and compute revenues. Then compute "Revenues: Grand Total" to determine the overall group winner. Debrief the activity with the following questions:

    a. Who were the suppliers in this activity? (The different groups) Whom do they represent? (Different businesses/producers)

b. If the market price for a good is high what are suppliers likely to do? (Produce more) If the market price is low, what are suppliers likely to do? (Produce less) What economic law does this illustrate? (Law of Supply)

c. If supply increases while demand remains constant, what happens to market price? (It goes down.) If supply decreases while demand remains constant, what happens to market price? (It goes up.)

12. Show the *Trade-Offs* film, "To Sell or Not To Sell" (optional).

Follow-up and Extension Activities:

1. Invite a farmer or agricultural expert to explain how changes in supply affect market prices, and how changes in prices influence production decisions.

2. Use the Revenues Worksheet as a math exercise. Supply ficticious production data and let students complete the sheet.

Resource Materials:

1. "To Sell or Not To Sell" from the *Trade-Offs* series, teaches the concept of supply. (Best for grades 4-6)

Revenues Worksheet (LESSONS 11 & 12)

Round	Goods	Number Produced	Market Price	Total Revenues	Amount Earned in Each Round
1.	Hammers				
	Shirts				
	Cups & Saucers				
	Baskets of Apples				
2.	Hammers				
	Shirts				
	Cups & Saucers				
	Baskets of Apples				
3.	Hammers				
	Shirts				
	Cups & Saucers				
	Baskets of Apples				
				Revenues: Grand Total	

55

Lesson 12
Market Price II

Market Price: Changes in Supply and Demand

Teaching Objectives:

1. To teach how changes in demand affect market price.
2. To teach what events would cause an increase or decrease in demand.
3. To teach that the market price serves as a guide to help producers determine what to produce.

Economic Concepts/Vocabulary:

Supply, Demand, Market Price, Profit, Advertising

Time Allowed:

50 minutes

Materials:

- Three different colors of play dough modeling compound
- Demand Cards
- Revenues Worksheet (from Lesson 11)

Discussion of Economic Concepts:

1. In a market, the interaction of **supply** and **demand** determines a **market price**. A change in the supply or demand for a good will cause a change in the **market price** of a good and the **quantity** of the good sold. If supply remains the same, an increase in demand will cause price to rise, whereas a decrease in demand will cause price to fall. If demand remains the same, an increase in supply will cause price to fall, whereas a decrease in supply will cause price to rise.

   The market price serves as a guide to producers in determining what goods or services to produce. When higher prices result in more **profits** for producers, this encourages producers to increase production and also encourages other producers to enter the market. If demand does not change, this increase in supply will then cause prices to fall.

Teaching Tips:

1. This teaching activity is very similar to Lesson 11, except that this activity has changes in *demand* as well as changes in supply.

2. Follow-up and Extension Activity 2, which extends the concept of advertising, can be incorporated easily into the Teaching Procedure below.

3. In this lesson, as in Lesson 11, you don't want students to "overproduce," driving the market price of all goods to $2.00. You may have to shorten the production time or revise the "Goods Supplied to the Market" column on the Price Chart. See Teaching Tip 1 in Play Dough Lesson 11.

Teaching Procedure:

1. Briefly discuss the concept of demand. (It is helpful to show the *Trade-Offs* film, "To Buy or Not To Buy.") Discuss whether or not the events on the Demand Cards (attached) would cause demand to increase or decrease.

2. Tell students that you are going to give them the opportunity to participate in another Play Dough production contest that includes demand. If you like, specify a reward for the winning group.

3. Divide students into equal sized production groups ("factories") of 5-8 as in the previous lesson. Groups should be separated as much as possible from each other. Groups also must designate a production manager and accountant.

4. Tell the groups that there will be three production rounds of about 5 minutes each. In each round groups may produce any amount and combination of baskets of apples, cups and saucers, hammers, or shirts. Show examples of each. At the end of each round you will give each group from $1.00 to $13.00 for each good produced correctly, depending on the supply and demand. The group that earns the most revenues wins.

5. Students use only their hands for this activity - no capital allowed. However, they may specialize and/or divide the labor (assembly line) if they choose. As in Lesson 11, each good must be the same size as the examples, and must contain two colors of play dough.

6. Give each group accountant a Revenues Worksheet, to be completed after each round.

7. Complete production in round 1. Use the Supply, Demand, and Market Price Chart and the Demand Cards to determine the price you will pay for each good produced correctly. (Put the Chart on the board and let students help determine the prices). Do not pay for sloppily made goods.

8. Accountants should use the Revenues Worksheet to determine the amount earned in round 1. Before round 2 begins give the groups several minutes to plan their production strategies. The production manager has final authority on what to produce.

9. After round 2 determine the new market prices for the four goods using the Price Chart and the Demand Cards, and write the prices on the board. Determine revenues earned. Let groups plan for round 3.

10. Complete round 3. Determine the new prices and revenues. Sum the money earned on each round to figure a grand total and determine the overall winner. Debrief the activity with the following questions:

    a. What patterns do you see in the Supply, Demand, and Market Price Chart? (In each column, price decreases as supply increases; in column 2, a decrease in demand always causes price to fall, and in column 3 an increase in demand always causes price to rise)

    b. In a market what two things are necessary in order for a price to be determined? (A supply and a demand for a good)

    c. What caused prices to change? (A change in supply or demand, or both)

    d. How did the price of a good influence your production decisions? (A high price was an incentive to produce more, a low price was an incentive to produce less.)

    e. How did the other groups affect your strategy and plans? (They also produced a lot when price was high, and this caused the price to drop. The reverse happened with low prices. We had to guess what the other groups were producing and try to produce something else.)

Follow-up and Extension Activities:

1. Use this lesson to study advertising. Discuss why advertising is important in our economy. Analyze the various types of advertising. Have students create written and oral advertisements. Invite an advertising person from a local company to talk to your class.

2. To add more realism make these changes in the original activity.

    a. Notice that on two Demand Cards the demand is increased by *advertising*. Do *not* allow this card to increase the market price of a good for a group *unless* that group has paid for the advertising of the goods!

    Before *each* production round each group must decide if it wishes to advertise the goods it will produce during that round. Charge an advertising fee of $5 for *each* type of good the group chooses to advertise during a production round. Groups should decide secretly so they do not reveal production decisions. Groups should write their advertising decision for each round on the back of the Revenues Worksheet. The advertising fee is subtracted from the money earned in each round.

    b. The groups are taking a risk, since the advertising is presumed to be ineffective if an advertising Demand Card is not drawn.

    c. If groups consistently do not choose to advertise, lower the price of advertising.

Resource Materials:

1. "To Buy or Not to Buy" and "At What Price," from the *Trade-Offs* series, cover the topics of demand and market price respectively.

Supply, Demand, and Market Price Chart

(LESSONS 12 & 13)

Goods Supplied by Class	Resulting Market Price with No Change in Demand	Resulting Market Price with Decrease in Demand	Resulting Market Price with Increase in Demand
0-8	$10.00	$8.00	$13.00
9-12	$7.00	$5.00	$10.00
13-16	$5.00	$3.00	$7.00
17-20	$3.50	$2.00	$4.00
Over 20	$2.00	$1.00	$3.00

HOW TO USE THE SUPPLY, DEMAND AND MARKET PRICE CHART: This chart is the same as the one used in Lesson 11, except that changes in demand have been added. After each round, each production manager must announce how many of each good his group produced. The teacher then sums the group totals to determine the class total for each good. The class total determines what row on the chart to use. Next, have a student draw and read one of the Demand Cards. If the card indicates there is no change in demand, then the price in the first column, "Resulting Market Price with No Change in Demand," is the market price for one of the goods, If the card indicates a decrease in demand, use the price in the second column, labeled "Resulting Market Price with Decrease in Demand." If the card indicates an increase in demand, use the price in the third column.

Remember that there will be four prices determined in each round, one for each of the goods that the students produce. Write these market prices on the board.

DEMAND CARDS

These events that affect demand should be put on eight different cards and used in conjunction with the Supply, Demand, and Market Price Chart to determine market prices for the play dough items students produce.

An advertising campaign is successful! Demand INCREASES!

An advertising campaign is successful! Demand INCREASES!

People's incomes rise. Demand INCREASES!

No events occur that cause changes. Demand does NOT change.

The price of other similar products falls. Consumers switch to these other products. Demand DECREASES for our product.

People's incomes fall. Demand DECREASES!

People begin to prefer other products. Demand DECREASES!

No events occur that cause changes. Demand does NOT CHANGE!

Lesson 13
Costs and Profits

Costs and Profits: How Much Did We Really Make?

Teaching Objectives:

1. To teach that costs must be subtracted from revenues to determine profit.
2. To teach that certain events cause costs to change, which can affect profits.

Economic Concepts/Vocabulary:

Profit, Cost, Land, Labor, Capital, Revenues

Time Allowed:

50 minutes

Materials:

- Three different colors of play dough modeling compound
- Demand Cards (from Lesson 12)
- Cost Cards
- Revenues, Production Costs, and Profit Worksheets

Discussion of Economic Concepts:

The **total revenues** (price times the number sold) a firm earns when it sells a good or service do not give an adequate picture of whether the firm is successful. One must also take into account the **costs** of production. The total revenues minus the total costs equals **profit**, and it is profit which is the key indicator of a firm's success.

In a competitive industry, a firm has little control over the prices of the goods or services it sells. Since the firm must "take" the price that the market sets, the only way for a firm to increase profits in the short run is by reducing costs.

Teaching Tips:

1. This lesson is very similar to Lesson 12 on Supply, Demand, and Market Price. There are two major differences:

   a. Students must now subtract costs from the revenues they earn. This introduces the concept of profit.

   b. In rounds 2 and 3 the costs will vary, which will affect profits.

2. As in Lessons 11 and 12, carefully limit the production time so that "overproduction" does not occur.

3. In this lesson students will be computing accounting profits, as opposed to economic profits. Economic profit is broader, more accurate definition of profit because it takes into account all the opportunity costs of the resources used in production.

Teaching Procedure:

1. Tell students that you are going to give them the opportunity to participate in another production contest using play dough. If you like, specify a prize for the winning group.

2. Divide students into equal groups of 5-7, and follow Teaching Procedure steps 2-5 in Lesson 12.

3. Tell students that there is a major difference in this lesson. Explain that in each production round groups now must subtract costs from their revenues to determine profits. The group with the most profits will win, *not* the group with the most revenues.

4. Briefly discuss some of the explicit (ie. accounting) costs of production. Give examples (rent, wages, materials, utilities, etc.) Discuss if costs ever change. Discuss the changes in costs that are mentioned on the cost cards (attached).

5. Write the Production Cost Schedule on the board. Use the example given below the Production Cost Schedule to explain how to compute profits.

6. Complete one production round, having the group accountants compute profits for the round. Accountants should use Revenues, Production Costs, and Profit Worksheets to help calculations.

7. Rounds 2 and 3 are identical, except that during each round, Cost Cards are drawn which can change the costs listed on the production cost schedule. If time is limited, omit round 3.

8. Sum the profits for all three rounds to determine an overall group winner. Debrief the activity with the following questions:

   a. How did this lesson differ from the previous lesson? (We had to consider costs as well as revenues, and then compute profits.)

   b. How did you compute profits? (total revenues minus total costs)

   c. Did you always make a profit on each item? (Maybe not, since total revenues may be less than total costs.)

   d. What caused production costs to change in rounds 2 and 3? (Changes in wages, prices of raw materials, utilities; the use of advanced capital)

Follow-up and Extension Activities:

1. There is much misconception about the concept of profit. Invite a businessperson to speak about this topic. Also ask him or her to discuss the topics of capital and production costs.

Resource Materials:

1. *Elementary Economics* issue, "Wages and Profit"
2. *Trade-Offs* film/video, "At What Price?"

PRODUCTION COST SCHEDULE

Hammer	$2.00
Shirt	$2.50
Cup and Saucer	$3.00
Basket of Apples	$3.50

As in Lesson 12, at the end of each round use the Supply, Demand, and Market Price Chart and the Demand Cards to compute a market price for each good. Write the market prices on the board. Groups then must complete the Revenues Worksheets. However, in this lesson students must compute costs as well. To compute the costs of producing a good, accountants multiply the cost of a good (as given above in the Production Cost Schedule) by the number of goods their group produced. This is then subtracted from the revenues to give the profit for each good. Accountants should use the attached Production Cost Worksheet and Profit Worksheet to help with their calculations.

Example: Suppose one group produced 6 cups and saucers and 8 hammers during round one. Suppose the *class* total is 12 for cups and saucerss and 17 for hammers. Also suppose the Demand Card for cups and saucers showed an *increase* in demand, and the Demand Card for hammers showed *no change* in demand. The Supply, Demand, and Market Price Chart reveals that the resulting market prices would be $10.00 for cups and saucers and $3.00 for hammers.

Using the Revenues Worksheet, the Total Revenues for cups and saucers would be 6 (number produced by the group) x $10.00 (market price) = $60.00. For hammers, Total Revenues would be 8 x $3.00 = $24.00.

Using the Production Worksheet, the Total cost for cups and saucers is 6 (number produced by the group) x $3.00 (from Production Cost Schedule) = $18.00. For hammers, total cost is 8 x $2.00 = $16.00

The profit earned on cups and saucers is therefore $60.00 (Total Revenues) - $18.00 (Total Costs) = $42.00.

The profit earned on hammers is $24.00 (Total Revenues) - $16.00 (Total Costs) = $8.00.

Notice that it is possible to earn negative profits, or losses, on certain goods.

COST CARDS

Events Which Cause Changes in Production Costs
(Put on 3X5 cards and use in Production rounds 2 and 3)

New capital reduces production costs by $.50 on this item.

New, very advanced capital reduces production costs by $1.00 on this item.

Labor costs rise. The cost of production increases by $.50 on this item.

Costs of natural resouces (land) used in making this good rise. Production costs on this good increase by $1.00.

Labor costs fall. The cost of production decreases by $.50 on this good.

Cost of rent and utilities rises. Production costs increase by $.50 on this good.

There is no change in the costs of production of this good.

There is no change in the costs of production of this good.

Revenues Worksheet (LESSON 13)

Round	Goods	Number Produced	Market Price	Total Revenues
1.	Hammers			
	Shirts			
	Cups & Saucers			
	Baskets of Apples			
2.	Hammers			
	Shirts			
	Cups & Saucers			
	Baskets of Apples			
3.	Hammers			
	Shirts			
	Cups & Saucers			
	Baskets of Apples			

Production Costs Worksheet (LESSON 13)

Round	Item	Number Produced	Cost to Produce One Item	Total Costs
1.	Hammers			
	Shirts			
	Cups & Saucers			
	Baskets of Apples			
2.	Hammers			
	Shirts			
	Cups & Saucers			
	Baskets of Apples			
3.	Hammers			
	Shirts			
	Cups & Saucers			
	Baskets of Apples			

Profit Worksheet (LESSON 13)

Round		ITEMS				Total Profits Each Round
		HAMMERS	SHIRTS	CUPS & SAUCERS	BASKETS OF APPLES	
1.	Total Revenues – Total Costs PROFIT	–	–	–	–	
2.	Total Revenues – Total Costs PROFIT	–	–	–	–	
3.	Total Revenues – Total Costs PROFIT	–	–	–	–	
				Profit: Grand Total All Rounds:		

Lesson 14
Inflation

Inflation: When All Prices Rise

Teaching Objectives:

1. To teach that inflation is an increase in the general price level of goods and services caused by the the supply of money increasing relative to the supply of goods and services.

2. To teach that an increase in money income does not necessarily mean an increase in one's ability to acquire goods and services.

Economics Concepts/Vocabulary:

Inflation, Price, Goods and Services, Income

Time Allowed:

30-40 minutes

Materials:

- Enough play dough modeling compound for each pair of students to make a small sculpture
- Play money (from Lesson 7)

Discussion of Economic Concepts:

Most economists define **inflation** as a persistent increase in the prices of most or all **goods** and **services** over a period of time. Over long periods, inflation is caused by increases in the supply of **money** that are greater than increases in the output of goods and services. This is the basis for the popular description of inflation as, "Too much money chasing too few goods."

A key point to remember is that an increase in the price of one or a few goods, due to changes in supply or demand, is *not* inflation. Inflation affects the prices of most or all goods and services, and in final analysis, is a monetary phemonena.

Teaching Tips:

1. There should ber a different amount of money given to each pair of students. To keep it simple, vary the amounts by $1.00 or $2.00.

2. Double each money amount in the second auction. This will not cause prices to exactly double, since some students will have money left over from the first auction.

2. Double each money amount in the second auction. This will not cause prices to exactly double, since some students will have money left over from the first auction.

3. It is usually helpful to auction some of the nicer, more desired goods first in each auction. This helps insure that a large quantity of the money gets spent.

Teaching Procedure:

1. Tell students that in this economics lesson, they will use play dough to produce goods to sell in a classroom auction. The goal is to purchase as many goods as possible.

2. There are two phases to this lesson: a Production Phase and a Consumption Phase.

3. Production Phase:

   a. Divide students into pairs. Give each pair enough play dough compound to produce one good. Allow the students about five minutes to produce a good they think other students (consumers) will want to purchase. Encourage students to do their best work.

   b. Display the finished goods on a table in front of the room. Write the names of the goods in a column on the board.

4. Consumption Phase:

   a. Randomly give each pair of students an envelope containing some play money. Each envelope should contain a different amount (See Teaching Tip 1). Explain that students will be consumers at an auction, the goal being to purchase as many goods as possible.

   b. Auction the goods one at a time. Record the price of each good in a column on the board next to the name of the good.

   c. Discuss who obtained goods (those with the most money in their envelope, or those who bid on items that had lower prices).

   d. Tell students that since some may not have purchased goods, that you would like to try the action again. Collect all the goods again and place them on the table in front of the room. Or, if time permits, let students have another Production Phase in which they must produce the same goods as before.

   e. Ask students if they would like to have more money for this auction. (Yes) Randomly reissue varying amounts of money in envelopes. The money amounts should be *double* the money given the first time (See Teaching Tip 2). Auction the *same goods* as during the first auction. Record the new prices.

5. Debrief this activity with the following questions:

   a. In both auctions, who was able to purchase goods? (Those with the most money; those who bought goods at lower prices)

b. What pattern do you see between the prices in the first and second auction? (In the second auction, all prices increased.) Why? (Students had more money this time, but the amount of goods remained constant.)

c. Did having more money help you? (It helped some, but not all.) Why not? (Prices rose, so some students still could not afford to purchase goods.)

d. As a *class*, were we better off as a result of having more money? (No, there was no change in the actual goods that were purchased. However, the *distribution* of goods changed, based on who had the most money.)

e. What really counts - how much money one has, or what one can purchase with the money? (What one can purchase. Money is only a medium of exchange.)

6. Show students pictures of inflated currency (attached).

Follow-up and Extension Activities:

1. Analyze some actual inflation data. An excellent, free source is "National Economic Trends," a booklet published quarterly by the Federal Reserve Bank of St. Louis, PO Box 442, St. Louis, MO 63166. This will give intermediate students excellent practice in interpreting tables and graphs.

2. Some real currency from very inflationary periods of history can be purchased at reasonable prices from Littleton Coin Company, 253 Union Street, Littleton, N.H. 03561.

3. Graph the prices of the goods in both auctions. Analyze and discuss the pattern of the price changes.

Resource Materials:

1. The cartoon booklet for elementary students, *Once Upon a Dime,* published by the Federal Reserve Bank of New York, introduces the topics of money and inflation. The booklet is free for orders of less than 50 copies.

100
Aushilfsschein
der Freien und Hansestadt Hamburg
Hundert Millionen
100 Mark 100
MILLIONEN
Hamburg, den 24. September 1923.

1.000.000
BANCO CENTRAL
0.108A
1.000.000
34.780.108A

Lesson 15
Gross National Product (GNP)

GNP: Measuring What We Produce

Teaching Objectives:

1. To teach the meaning of Gross National Product.
2. To teach that real GNP, not money GNP, is the more significant measure of GNP.

Economic Concepts/Vocabulary:

Gross National Product (GNP), Real GNP, Money GNP, Inflation

Time Allowed:

40-45 minutes

Materials:

- Enough play dough modeling compound for each student to make two small sculptures

Discussion of Economic Concepts:

Gross National Product (GNP) measures the market value of all the goods and services produced in the economy in a year. Economists use GNP data to measure the economy's growth. Historically, GNP has grown on average about 3 percent per year.

When GNP is computed using current dollar prices, it is referred to as **money GNP**, or **nominal GNP**. The problem with using money GNP is that **inflation** makes it difficult to determine how much real GNP growth has actually occurred. Money GNP may grow substantially, but that growth may be primarily the result of higher *prices*, not of actual growth in the amount of goods and services produced. To compare real GNP growth from year to year, economists compute GNP in terms of the dollar prices of a previous base year.

Two shortcomings of GNP as a measure of economic growth are that it does not measure increases in leisure time (more holidays, vacations, shorter work hours, etc.) and it measures only market activity. Productive activity done by families, such as housework or lawnwork, is not reflected in GNP.

Teaching Tips:

1. GNP may appear to be a rather complicated concept to teach to elementary students. In reality, the concept is rather simple, and students who perform this activity should gain a basic conceptual understanding without much difficulty.

2. This lesson is an excellent math exercise. If you like, make GNP calculation worksheets and have the class complete them during the lesson.

Teaching Procedure:

1. Ask students if they would like to do an economics activity using play dough modeling compound to learn a concept that college students learn. Pass out enough play dough for each student to make *two* small sculptures.

2. Tell the students that the next five to eight minutes will represent all of 1989 (or the present year). During this time each student must produce *two* of the following goods: shirt, calculator, telephone, doll, book, or basket of apples. Students can produce two different types of goods if they wish.

3. After the production period, students must place their goods on a table in front of the room. On the board, draw a GNP Calculation Chart. (See example below.) Write the names of the goods in the first column. Count how many of each good were produced, and write these totals in the "Number Produced" column.

4. Have the class estimate separate prices for *each* of the goods, and then write the prices in the "Price" column. Multiply the number of each good produced by the price of the good (as determined by the class) to complete the "Revenues" column. To compute the GNP, sum the last column. Explain what GNP means. See the sample below:

GNP CALCULATION CHART

Sample 1989 GNP Calculation

Good	*Number Produced*	*Price*	*Revenues*
Shirt	8	$10.00	$80.00
Calculator	6	$17.00	$102.00
Telephone	8	$15.00	$120.00
Doll	10	$4.00	$40.00
Book	4	$9.00	$36.00
Basket of apples	4	$8.00	$32.00
			$410.00

GNP FOR 1989 = $410.00

5. Have the students destroy the goods they just made. Tell the students that now you want them to produce goods for the next year, 1990. This time they each must produce only *one* good with the play dough. They must do good work. Place goods in front of the room and calculate GNP as before, using the *same* (ie. 1989) prices.

5. Have the students destroy the goods they just made. Tell the students that now you want them to produce goods for the next year, 1990. This time they each must produce only *one* good with the play dough. They must do good work. Place goods in front of the room and calculate GNP as before, using the *same* (ie. 1989) prices.

6. Has GNP increased or decreased? (Probably decreased) Why? (Less goods have been produced, and their total value is less.) Assuming that the GNP has decreased, what has happened to the standard of living in this country? (It has gone down, since there are less goods available to consumers.) Why would GNP decrease so dramatically in a country? (Perhaps war, plague, natural disaster, etc.)

7. Tell students that you forgot to tell them that the government had created and spent a lot of money in 1990, and that prices had increased drastically. Their GNP for that year is, therefore, inaccurate. They must recompute the 1990 GNP using the *new* prices. Show the students some new prices, which are four times higher than the previous 1989 prices. Compute the 1990 GNP using these *new* prices.

8. How has the 1990 GNP computed with the *new* prices changed from the 1990 GNP computed with the *old* prices? (It increased, approximately four times.) Is the country's standard of living any different? (No, prices are just higher (inflation), therefore, making GNP higher; but the amount of goods is the same!)

9. Have the students compare the 1989 GNP with the 1990 GNP computed with new prices. Which is bigger? (The 1990 GNP) Does this mean that the standard of living was higher in 1990? (No, in fact it was lower, since less goods were produced! The high GNP in 1990 was due only to higher prices.)

10. How could we make a more accurate comparison of GNP from year to year? (Use the same prices from a base year. In our example, use the first set of prices from our 1989 base year with the actual 1990 production, and then compare. This gives a comparison of *real GNP*.)

11. What are two other shortcomings of using GNP as a measure of growth? (GNP does not measure increases in leisure; GNP only measures market activity - see Discussion above.)

Follow-up and Extension Activities:

1. Have students bring articles from newspapers or magazines where GNP is mentioned. Put these on a bulletin board.

2. Locate actual GNP data and analyze real and money GNP growth. An excellent, free source is "National Economic Trends," a booklet published quarterly by the Federal Reserve Bank of St. Louis, PO Box 442, St. Louis, MO, 63166. This is a good exercise in interpreting tables and graphs.

3. Make GNP Worksheets and use them as math exercises.

Annotated Bibliography of Selected Curriculum Materials

The following economic education curriculum materials were referenced in the Play Dough lessons. Many of these materials may be borrowed on a free loan basis from university centers of economic education throughout Indiana. For more information contact the Indiana Council for Economic Education, Rm. 222, Krannert Center, Purdue University, W. Lafayette, IN 47907.

Business Basics

Business Basics is an economic enrichment program designed for 5th or 6th grade students. Selected high school students who are participating in the Junior Achievement Program or the Applied Economics class teach economics and business lessons through discussion, hands-on activities, and role playing.

Junior Achievement
Business Basics Program Director
1317 N. Pennsylvania St.
Indianapolis, IN 46202
(317) 634-3519

Children in the Marketplace: Lesson Plans in Economics for Grades 3 and 4 (2nd edition)

Nine complete lessons use a variety of motivating instructional strategies to teach basic economic concepts. Each lesson is self-contained and includes classroom materials for students. Approximate cost $15 (1986).

Joint Council on Economic Education
2 Park Avenue
New York, NY 10016
(212) 685-5499

Common Cents

These ten 15-minute video programs use a wide variety of techniques (puppets, animation, music, film, etc.) to teach many economic concepts to primary students. Teacher's manual includes discussion questions and teaching activities. Approximate cost $125 per video program (1976-77).

Agency for Instructional Technology
Box A
Bloomington, IN 47401
(812) 339-2203

Elementary Economist

This quarterly publication explains basic economic concepts and highlights teacher-developed K-6 activities which teach the concepts. Subscription rate $15 per year. A packet of back issues is available for $15.00.

Joint Council on Economic Education
2 Park Avenue
New York, NY 10016
(212) 685-5499

The Fisherman Who Needed A Knife: Why We Use Money
The Man Who Made Spinning Tops: Why People Have Special Jobs

These animated 8-minute color videos illustrate in a humorous and motivating way how money and job specialization help increase productivity. Applicable for grades K-6. Approximate cost $175 each (1970).

Coronet-MTI-LCA Film and Video
108 Wilmot Road
Deerfield, IL 60015
(800) 621-2131

A Framework for Teaching the Basic Concepts (2nd edition)

This booklet discusses basic economic concepts and explains a simple decision-making model. It is helpful for teachers who have not had much formal training in economics. Approximate cost $8 (1984).

Joint Council on Economic Education
2 Park Avenue
New York, NY 10016
(212) 685-5499

Give and Take

This 12-part film/video series is designed for junior high, but can be used selectively at the upper elementary level. Each 15-minute film covers a specific economic topic. The teachers manual contains student worksheets. Available on a free loan basis (1982).

Indiana Council for Economic Education
Room 222, Krannert Center
Purdue University
West Lafayette, IN 47907
(317) 494-8540

Lifegames

This booklet, written by Saul Z. Barr, describes 80 activity-centered economics lessons for primary children. The booklet emphasizes four themes: Goods and Services, Specialization and Jobs, Productive Resources, and Money and Banking. Approximate cost $13.50 (1985).

Addison-Wesley Publishing Company
1843 Hicks Road
Rolling Meadows, IL 60008
(800) 535-4391

The Mini-Economy: Integrating Economics into the Elementary Curriculum

Using this booklet teachers can learn how to initiate and expand a classroom mini-economy. Reproducible mini-economy aids are included. Cost $4; free to Indiana teachers (1986).

Indiana Department of Education
Office of School Assistance
Room 229, State House
Indianapolis, IN 46204-2798
(317) 232-9141

Oak Lane Tales

In this video series of eight 15-20 minute lessons, animal characters in the community of Oak Lane live, work, and play together to illustrate various business and economic concepts. The series is not animated. Rather, it is a filmstrip in video format. Best for grades 2-4. Approximate cost of complete set $375 (1986).

WRI Education
11722 Sorrento Valley Road
San Diego, CA 92121
(800) 972-3635

Once Upon A Dime

This three-part filmstrip/cassette series defines money and demonstrates its usefulness. A teacher's guide and comic book lessons are included. Best for grades 3-6. Approximate cost $29.50 (1985).

FRB New York
Public Information Department
33 Liberty Street
New York, NY 10045
(212) 791-6134.

Master Curriculum Guide (MCG) Series: Strategies for Teaching Economics
Primary Level (Green) Intermediate Level (Gold) Middle School/Junior High Level (Dark Green) Using Economics in the Social Studies Methods Course (Purple)

These booklets contain many different teaching activities covering a wide variety of economic concepts. Approximate cost $8.50 each.

Joint Council on Economic Education
2 Park Avenue
New York, NY 10016
(212) 685-5499

Teaching Economics in the Mini-Economy
This booklet introduces teachers to basic economic concepts and tells how to apply them in the context of a classroom mini-economy.

Indiana Department of Education
Office of School Assistance
Room 229, State House
Indianapolis, IN 46204-2798
(317) 232-9141

Trade-Offs
These 25 20-minute film/video programs cover many basic economic concepts for upper elementary students. Decision-making skills are stressed throughout the series. Available on a free loan basis (1978).

Indiana Council for Economic Education
Krannert Center, Room 222
Purdue University
West Lafayette, IN 47907
(317) 494-8540

Winnie-the-Pooh and the Value of Things
This popular six-part filmstrip/cassette series covers simple economic concepts applicable to the primary curriculum. Approximate cost $199 (1977).

Walt Disney Educational Media
Distributed by Coronet-MTI-LCA Film and Video
108 Wilmot Road
Deerfield, IL 60015
(800) 621-2131

PRIMARY TEST
Lessons 1-9

1. Which item is **not** a *good* or *service*?
   A. Pants
   B. Pencil
   C. Garbage
   D. Haircut

2. Which item is a *service*?
   A. Book
   B. Gold
   C. Dress
   D. Haircut

3. Businesses provide the *goods* and *services* we want by:
   A. Saving them
   B. Wanting them
   C. Producing them
   D. Borrowing them

4. The three basic kinds of *productive resources* used to produce a house are:
   A. Capital, money, labor
   B. Land, labor, capital
   C. Land, capital, government
   D. Money, labor, government

5. Which of the following is an example of *capital*?
   A. Oil
   B. Water
   C. Work
   D. Tractor

6. In economics, something is *scarce* when:
   A. No one wants it
   B. You can get it at no cost
   C. Everyone has what they want
   D. There is not enough for everyone to have all they want

'79

7. *Opportunity cost* means:
   A. Your best choice
   B. The price of your best choice
   C. The price of productive resources
   D. The best thing you give up when you choose something

8. At the toy store, there are many things Sam wants to buy. When he chooses a toy to buy, there will:
   A. Always be an opportunity cost
   B. Never be an opportunity cost
   C. Sometimes be an opportunity cost
   D. Be two opportunity costs

9. With her $2.00 Sally wants to buy **one** of these three things: a book, a bag of candy, or a belt. Her first choice is the candy, and she buys that. The book was her second choice, and the belt was her third choice. What is the *opportunity cost* of her choice to buy the candy?
   A. The belt
   B. The book
   C. The book and the belt
   D. The price of the candy

10. Mr. Johnson runs a business. He can produce chairs or windows. He decides to produce chairs. The *opportunity cost* of producing the chairs is:
   A. The price of the chairs
   B. The cost of paying many workers
   C. The windows he now cannot produce
   D. The price of the wood used to build chairs

11. To be successful a business must:
   A. Produce goods but not services
   B. Produce goods and services using mostly labor
   C. Produce goods and services that consumers want
   D. Produce goods and services with a high price

12. Sarah baked some cookies. She traded six cookies to Joe for one of his toy cars. What is true about the trade?
   A. Sarah gained but Joe lost
   B. Joe gained but Sarah lost
   C. Both Sarah and Joe gained
   D. Both Sarah and Joe lost

13. Money is very important in our economy because it:
   A. Is difficult to earn
   B. Helps people to trade
   C. Can be traded for gold
   D. Is expensive to produce

14. Alice, Sam, and Susan decided to earn money by making and selling cookies. To make the cookies, they *specialized* by using an assembly line. Alice mixed the dough, Sam cut the cookies, and Susan baked them. They specialized because they wanted to:
    A. Make more cookies
    B. Learn many different jobs
    C. Increase the costs of making cookies
    D. Increase the price of their cookies

15. What is one of the problems when making cookies by *specializing* on an assembly line?
    A. The cookies will cost more
    B. Less cookies will be made
    C. One worker can slow all the production
    D. Each person has to learn many types of jobs

16. Mr. Smith uses only his hands to weed his garden. He decides to buy a hoe to help him weed faster. The hoe will help Mr. Smith increase his:
    A. Labor
    B. Demand
    C. Productivity
    D. Natural Resources

17. Farmer Brown uses a hoe to raise corn. He wants to produce more corn so he purchases a tractor. This is an example of increasing production by:
    A. Working harder
    B. Increasing demand
    C. Using better capital
    D. Increasing opportunity costs

INTERMEDIATE TEST
Lessons 1-9

1. Which item is not a good or service?
   A. Pencil
   B. Pants
   C. Garbage
   D. Car repair

2. Which item is a service?
   A. Book
   B. Gold
   C. Dress
   D. Haircut

3. Businesses provide the goods and services we want by:
   A. Saving them
   B. Wanting them
   C. Producing them
   D. Borrowing them

4. The three basic kinds of productive resources used to produce a house are:
   A. Capital, money, unions
   B. Land, labor, capital
   C. Land, capital, government
   D. Money, unions, government

5. Which of the following is an example of capital?
   A. Oil
   B. Water
   C Work
   D. Tractor

6. In economics, something is scarce when:
   A. No one wants it
   B. You can get it at no cost
   C. Everyone has what they want
   D. There is not enough for everyone to have all they want

7. Opportunity cost means:
   A. Your best choice
   B. The price of your best choice
   C. The price of productive resources
   D. The best thing you give up when you you choose something

8. At the toy store there are many things Sam wants to buy. When he chooses a toy to buy, there will:
   A. Always be an opportunity cost
   B. Never be an opportunity cost
   C. Sometimes be an opportunity cost
   D. Be two opportunity costs

9. With her $2.00 Sally wants to buy **one** of these three things: a book, a bag of candy, or a belt. Her first choice is the candy, and she buys that. The book was her second choice, and the belt was her third choice. What is the *opportunity cost* of her decision to buy the candy?
   A. The belt
   B. The book
   C. The book and the belt
   D. The price of the candy

10. Mr. Johnson runs a business. He can make money by using his productive resources to produce chairs or windows. He decides to produce chairs. The *opportunity cost* of producing the chairs is:
   A. The price of the chairs
   B. The cost of paying many workers
   C. The windows he now cannot produce
   D. The price of the wood used to build chairs

11. To be successful, a business must:
   A. Produce goods but not services
   B. Produce goods and services using mostly labor
   C. Produce goods and services that consumers want
   D. Produce goods and services with a high price

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   A. Sarah gained but Joe lost
   B. Joe gained but Sarah lost
   C. Both Sarah and Joe lost
   D. Both Sarah and Joe gained

13. *Money* is very important in our economy because it:
    A. Is difficult to earn
    B. Helps people to trade
    C. Can be traded for gold
    D. Is expensive to produce

14. Alice, Sam, and Susan decided to earn some money one afternoon by making and selling cookies. To make the cookies, they *specialized* by using an assembly line. Alice mixed the dough, Sam cut the cookies, and Susan baked them. They specialized because they wanted to:
    A. Make more cookies
    B. Learn many different jobs
    C. Increase the costs of making cookies
    D. Increase the price of their cookies

15. What is one of the problems when making cookies by *specializing* on an assembly line?
    A. The cookies will cost more
    B. Less cookies will be made
    C. Each person has to learn many types of jobs
    D. One worker can slow all the production

16. Mr. Smith uses only his hands to weed his garden every Saturday morning. He decides to purchase a hoe to help him weed faster. By purchasing the hoe, Mr. Smith will increase his:
    A. Demand
    B. Productivity
    C. Labor Costs
    D. Natural Resources

17. Farmer Brown uses a hoe to raise corn. He wants to produce more corn so he purchases a tractor. This is an example of increasing production by:
    A. Working harder
    B. Using improved capital
    C. Increasing demand
    D. Increasing opportunity costs

INTERMEDIATE TEST
Lessons 10-15

18. Sally is saving her money to purchase a $100 bike to use for her paper route. The *opportunity cost* of saving her money is:
    A. The price of the bike - $100
    B. Giving up the chance to buy other things now
    C. The interest she gets at the bank
    D. The money she will earn later selling papers

19. Eric mows lawns with a push mower to earn money. He has earned $500. He wants a new expensive racing bike that costs $500, but decides instead to purchase a riding lawn mower to replace his push mower. Eric is hoping that purchasing the riding lawn mower will:
    A. Increase his production costs
    B. Raise the price of mowing lawns
    C. Increase his income in the future
    D. Raise the demand for lawn mowers

Use the following information to answer questions 20-25

Sarah produces and sells birdhouses for $10.00 each. She sells three birdhouses each week. It costs her $8.00 to produce one birdhouse.

20. Sarah learns that the *price* of birdhouses has risen to $13.00 each. Sarah will probably:
    A. Make something else
    B. Make fewer birdhouses
    C. Make more birdhouses
    D. Make the same number of birdhouses

21. What could have caused the *price* of birdhouses to rise from $10.00 to 13.00?
    A. Fewer birdhouses produced in the market
    B. Fewer people wanting birdhouses
    C. Fewer people buying birdseed
    D. Fewer people having opportunity costs

22. Sarah would most likely want the *demand* for her birdhouses to:
    A. Increase
    B. Decrease
    C. Stay the same
    D. Decrease then increase

23. Which of the following would probably **increase** the *demand* for Sarah's birdhouses?
    A. Many people losing their jobs
    B. A successful advertising program
    C. An increase in the price of birdhouses
    D. Many people preferring to buy other things besides birdhouses

24. How much *profit* does Sarah make when she sells **one** birdhouse for $13.00?
    A. $5.00
    B. $8.00
    C. $13.00
    D. $21.00

25. Which of the following would cause the *cost* of producing a birdhouse to change?
    A. A change in profits
    B. A change in the demand for birdhouses
    C. A change in people's desire to buy birdhouses
    D. A change in the price of wood used to make birdhouses

26. Last year in a certain country, the government printed and spent a lot more money, however, businesses did **not** produce more goods and services. In that country we would expect:
    A. That people would lose their jobs
    B. The prices of goods and services to rise
    C. The demand for goods and services to fall
    D. The supply of opportunity costs to rise.

27. Last year all the workers in a certain country earned more money. What can we say for sure about the goods and services the workers could buy?
    A. The workers could buy more goods and services
    B. The workers could buy fewer goods and services
    C. The workers could buy the same amount of goods and services
    D. We can say nothing for sure, since we do not know how the prices of goods and services changed

28. A certain country produced only the following goods last year. (See chart below.) The price of each good is shown. What is the *GNP* of the country?

Goods Produced	Price of one good
3 Hammers	$10.00
2 Shirts	$5.00
1 Book	$4.00

A.$15.00
B.$19.00
C.$28.00
D.$44.00

29. The next year the same country produced only the goods shown in the chart below. The prices of the goods rose, and are shown in the chart. What was the change in the *real GNP* of the country?

Goods Produced	Price of one good
3 Hammers	$15.00
2 Shirts	$10.00
1 Book	$8.00

A. Real GNP rose
B. Real GNP fell
C. Real GNP stayed the same
D. We cannot tell, since prices rose

Answers to Tests

Primary Test

1. C
2. D
3. C
4. B
5. D
6. D
7. D
8. A
9. B
10. C
11. C
12. C
13. B
14. A
15. C
16. C
17. C

Intermediate Test

1. C
2. D
3. C
4. B
5. D
6. D
7. D
8. A
9. B
10. C
11. C
12. D
13. B
14. A
15. D
16. B
17. B
18. B
19. C
20. C
21. A
22. A
23. B
24. A
25. D
26. B
27. D
28. D
29. C

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PLAY DOUGH RECIPE

1 cup flour
1 T. oil
1 cup water
1/2 cup salt
2 t. cream of tartar
food coloring

Directions:

Cook over medium heat until a ball forms. Knead in a large zip-lock bag for a few minutes. Remove air from bag and zip shut.